

JPRS-UAG-84-001

12 January 1984

# USSR Report

AGRICULTURE

**FBIS** FOREIGN BROADCAST INFORMATION SERVICE

#### NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [ ] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

#### PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service (NTIS), Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semimonthly by the NTIS, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

Soviet books and journal articles displaying a copyright notice are reproduced and sold by NTIS with permission of the copyright agency of the Soviet Union. Permission for further reproduction must be obtained from copyright owner.

# NOTICE

Effective with this issue, JPRS is implementing a new numbering system for its reports in which the dual numbering system currently in use will be replaced with a single 15-character alphanumeric code. Within this code, each JPRS report will have a unique trigraph code. For example, the alphanumeric code for the first JPRS JAPAN REPORT issued in 1984 will be:

JPRS-JAR-84-001

## Explanation of Elements of Alphanumeric Code

JPRS: Indicates that the report was published by the Joint Publications Research Service

JAR: Trigraph code for the JAPAN REPORT

84: Indicates the year in which the report was published

001: First report in the series. Each report series will have a separate numbering system that will begin with 001 on 1 January every year and will end on 31 December every year with whatever 3-digit number has been reached.

The alphanumeric code described above will appear in the upper left-hand corner of each report. The date the report was prepared for publication will appear on the line below the code.

12 January 1984

## USSR REPORT AGRICULTURE

### CONTENTS

#### MAJOR CROP PROGRESS AND WEATHER REPORTING

Moscow Reports Harvest, Winter Sowing Progress (Moscow Domestic Service, 5 Oct 83).....	1
Moscow Radio Reports Agricultural Developments 2 November-12 December (Moscow Domestic Service, various dates).....	2
2-5 November	
6-9 November	
23-27 November	
30 November-3 December	
5-7 December	
8-12 December	

#### POST HARVEST CROP PROCESSING

Vegetable, Fruit Problems in Siberia (SEL'SKOYE KHOZYAYSTVO ROSSII, No 7, Jul 83; SOVETSKAYA ROSSIYA, 26 Jul 83).....	6
Increased Fruit, Vegetable Production Called For, by V. Naumov Special Concerns of Vegetable Growers, by A. Shchegolev Problems of Vegetable Processing Plant, by A. Usol'tsev Vegetable Production in Siberia, by V. S. Mogutov	



Potato, Vegetable Procurement Problems in Stavropol Kray (SOVETSKAYA ROSSIYA, 30 Aug, 15 Oct 83).....	14
Procurement Problems, by V. Seliverstov Follow-Up on Status of Harvesting, Procurement, by N. Komissarov	
Progress, Problems in Potato Storage (Various sources, various dates).....	19
Improving Facilities Conditions for Optimal Potato Harvest, by A. Serdyukov, S. Pakhomova Preserving the Harvest, by M. Vladimirov	
LIVESTOCK FEED PROCUREMENT	
Mesyats Stresses High-Yield Feed Production, Intensified Procurement (V. K. Mesyats; VESTNIK SEL'SKOKHOZYAYSTVENNOY NAUKI, No 10, Oct 83).....	15
LIVESTOCK	
Concern for Winter Readiness of Volgograd Oblast Livestock (F. Seleznev; IZVESTIYA, 28 Oct 83).....	42
Development of Livestock Production in CEMA Countries (Zhamtsyn Batzorig, et al.; EKONOMICHESKOYE SOTRUDNICHESTVO STRAN-CHLENOV SEV, No 10, Oct 83).....	45
Shortcomings in Belorussian Livestock Breeding Operations Pointed Out (SEL'SKAYA GAZETA, 15 Nov 83).....	53
Science Applied to Livestock Production in Lithuania (Z. Vagonis; KOMMUNIST, No 9, Sep 83).....	56
AGRO-ECONOMICS AND ORGANIZATION	
Gosplan Official Discusses Problems of Planning in APK System (P. Paskar'; EKONOMIKA SEL'SKOGO KHOZYAYSTVA, No 10, Oct 83).....	63
Planning Effective Capital Investment in APK Branches (T. V. Konovalova, V. F. Kutsenko; DEN'GI I KREDIT, No 4, Apr 83).....	72

Procurement Officials Respond to Criticism of Subsidiary Industrial Enterprises (ZAKUPKI SEL'SKOKHOZYAYSTVENNYKH PRODUKTOV, No 10, Oct 83) .....	82
---	----

Increasing Efficiency of Moldavian Vegetable Production (B. Kalashnikov; SOVETSKAYA MOLDAVIYA, 11 Oct 83) .....	85
--	----

#### TILLING AND CROPPING TECHNOLOGY

Importance of Scientific Support in Raising Level of Cropping Skill Stressed (P. A. Kolomyets; STEPNYYE PROSTORY, No 9, Sep 83) .....	88
---	----

## MAJOR CROP PROGRESS AND WEATHER REPORTING

### MOSCOW REPORTS HARVEST, WINTER SOWING PROGRESS

LD021813 Moscow Domestic Service in Russian 1630 GMT 5 Oct 83

[Text] The editorial office today received reports from the USSR Central Statistical Administration on progress in field work. In the last few days harvesting work has continued on grain fields in the eastern areas of the country. Altogether, grain has now been reaped on almost 110 million hectares, and it has been threshed on 107.5 million hectares. The rate of picking up windrows and threshing have grown noticeably.

Harvesting of grain corn continues in the European part of the country. The crop has been gathered from 2.5 million hectares. Threshing of corn cobs has been completed in Uzbekistan. Moldavian and Tajikistan kolkhozes and sovkhozes are close to completing this work. The sunflower harvesting plan has been fulfilled in 81 percent. In the last week alone the crop has been threshed on more than 500,000 hectares--that is a high working rate. Significant areas of the valuable oil crop still remain to be harvested in Altay Kray and in some oblasts in Siberia.

Approximately one-third of the sugar beet crop remains to be lifted. Flax growers have almost completed harvesting.

Cotton procurement is also proceeding in an organized way. At present the highest pace is being achieved by the cotton-sowing farms of Azerbaijan, Turkmenistan and Tajikistan.

Winter crop sowing is continuing in the south of the country. They have been sown on more than 34 million hectares, which is 85 percent of the plan.

Over the last week, winter fallows have been plowed on 12 million hectares, which is 59 percent of the plan. This work has been completed early by the farmers of Tambov, Ulyanovsk and Penza oblasts.

CSO: 1824/141

## MAJOR CROP PROGRESS AND WEATHER REPORTING

### MOSCOW RADIO REPORTS AGRICULTURAL DEVELOPMENTS 2 NOVEMBER-12 DECEMBER

#### 2-5 November

[Editorial Report] The following is a compilation of reports on agricultural developments in the USSR carried by Moscow Domestic Service in Russian on 2-5 November. Times of broadcasts are given in parentheses at the end of each item.

#### 2 November

Russian federation sovkhoses and kolkhoses are now laying the foundations of next year's harvest. Plowing work is continuing and almost 64 million hectares have been plowed--94 percent of the plan. Plowing has been completed early in Vladimir, Kaluga, Ryazan and Tula oblasts, and is drawing to a close in Leningrad, Bryansk and a number of other oblasts. "Plowing has generally been completed in Volgograd rayon [as heard] but in Kirov oblast farms are behind in their plowing." (0430 GMT)

Kuybyshev oblast farmers have fulfilled the annual plan for sales of seed oil to the state; to date, they have dispatched more than 150,000 tons of procurement points and processing enterprises. Sunflower is now being harvested on the last thousands of hectares in the oblast, and above-plan sales to the state have started. (1630 GMT)

Daghestan: Specialized farms of the ASSR have started work today on laying out fruit plantations in terraces on the spurs of the (Kavkazskiy) ridge. Local hybrids with highest yields and resistant to disease are being planned; they give up to 300 quintals per hectare. Since the beginning of the five year plan period the area allotted to fruit and grape plantations has increased by more than 10,000 hectares, in the main as a result of using up mountainous areas. (1630 GMT)

Autumn plow-land at the country's kolkhoses and sovkhoses was plowed by the beginning of November on almost 104 million hectares. This is 93 percent of the whole volume of autumn plowing. Farms of Belorussia, Kazakhstan, Estonia, Moldavia, Lithuania, have coped successfully with the important agro-technical measure. Plowing is at the moment coming to an end at farms of Latvia and Ukraine. Winter sowing is still continuing in the south of the country. Various winter crops are in place on almost 39 million hectares. (1630 GMT)

4 November

The plowing of winter fallow has been completed in Kazakhstan. About 19 million hectares have been prepared for next year's harvest. (1630 GMT)

Ukrainian farms have completed the sowing of winter rape on 230,000 hectares. Turkmenistan land cultivators have completed the sowing of winter crops: wheat, barley and rye have been sown on the area of 85,000 hectares. (2004 GMT)

6-9 November

[Editorial Report] The following is a compilation of reports on agricultural developments in the USSR carried by Moscow Domestic Service in Russian on 6, 8 and 9 November. Times of broadcasts are given in parentheses at the end of each item.

8 November

More than 500,000 hectares in the Black Sea area (V Prichernomoriye) will be sown to corn for the first time. This represents one third of the entire area sown to grain crops. Preparations for the sowing are being completed. (1200 GMT)

The Saratov oblast grainfields cover almost 4 million hectares. Over 3.5 million tons of grain was dispatched to the country's granaries. However, at present quite a lot of grain in the oblast is in clamps. It is, of course, covered with tarpaulin, but there is no permanent roof over it. (2300 GMT)

23-27 November

[Editorial Report] The following is a compilation of reports on agricultural developments in the USSR carried by Moscow Domestic Service in Russian on 23-27 November. Times of broadcasts are given in parentheses at the end of each item.

23 November

In Belorussia farms have started preparing clover seeds for next year's sowing. More than 13,000 tons have been prepared already, a record amount. A sharp increase in the production of this high-protein crop is planned in the republic; by the end of the 5-year plan period the area under this crop will be expanded by a third of a million hectares. (1630 GMT)

26 November

In Bashkir ASSR over 1,380,000 tons of sugar beet has been delivered to procurement centers, a record amount for the republic. (1630 GMT)



27 November

Autumn ploughing in Kazakhstan is ahead of plan. Five million hectares of clear fallows are ready for spring sowing. (0200 GMT)

30 November-3 December

[Editorial Report] The following is a compilation of reports on agricultural developments in the USSR carried by Moscow Domestic Service in Russian on 30 Nov-3 Dec. Times of broadcasts are given in parentheses at the end of each item.

2 December

Farms in Orenburg Oblast are boosting their seed supply with new varieties of high-quality spring wheat. Among them are locally selected strains: 'Orenburgskaya-2' and 'Orenburgskaya Rannyaya'. They have been included in the number of promising strains not only in the southern Urals but also in northern Kazakhstan. (0900 GMT)

5-7 December

[Editorial Report] The following is a compilation of reports on agricultural developments in the USSR carried by Moscow Domestic Service in Russian on 5-7 December. Times of broadcasts are given in parentheses at the end of each item.

5 December

Kazakhstan farm workers have completed harvesting of all types of fodder. Compared with last year 3,500,000 tons of hay, 600,000 tons of haylage more has been laid in. (0800 GMT)

Land improvers have handed over 1,000 hectares of irrigated land on the left bank of the Araks to farmers. This is part of a 30,000 hectare project for irrigation in the Milskaya Steppe. (0900 GMT)

6 December

At sugar works of Bashkiriya 500,000 tons of sugarbeet have been processed since the beginning of the season. Over 2 million tons of sugarbeet have been delivered to the reception point by the beet growers of the republic. By the end of the year another 200,000 tons of beetroots will be processed into sugar in this autonomous republic. (0900 GMT)

7 December

Over 6,000 tractors have been prepared for next year's field work in Saratov Oblast. That is 80 percent of the quarterly plan. (0530 GMT)



8-12 December

[Editorial Report] The following is a compilation of reports on agricultural developments in the USSR carried by Moscow Domestic Service in Russian on 8-12 December. Times of broadcasts are given in parentheses at the end of each item.

8 December

Saratov Oblast: More than 3.6 million metric tons of grain crops were sold to the state this year, with a plan for 3.5 million. However, the plan was not fulfilled regarding the specific varieties of graincrops: Five times less than the planned amounts of hard and strong wheat varieties were delivered in Saratov Oblast. To rectify this situation, now there are plans to increase the area under these varieties by another 70,000 hectares. In order to raise the yield of these varieties, a high level of agricultural technology is necessary, as well as good quality varieties. Among the reasons for underfulfilling the plan was the lack of material incentive, and the emphasis on volume of output. Barley, for instance, gives a higher yield and costs considerably less to produce than hard and strong wheats. It is necessary to compensate for this by providing more fodder for farms that concentrate on the better varieties of grain. (1200 GMT)

12 December

Ukraine: To date, 50,000 tractors have been repaired for the spring. (1400 GMT)

Kuban: Preparation of seed for spring sowing has been completed. (1400 GMT)

The cotton harvest is drawing to a close in Tajikistan. Over 875,000 metric tons have been delivered to procurement points to date. (1430 GMT)

CSO: 1824/141

## POST HARVEST CROP PROCESSING

### VEGETABLE, FRUIT PROBLEMS IN SIBERIA

#### Increased Fruit, Vegetable Production Called For

Moscow SEL'SKOYE KHOZYAYSTVO ROSSII in Russian No 7, Jul 83 pp 2-3

/Article by V. Naumov, RCFSR minister of the Fruit and Vegetable Industry:  
"Increasing the Production of Fruits and Vegetables"/

/Text/ The period for the mass harvesting of fruit and vegetables is approaching. Last year the farms of Russia fulfilled their plan for selling vegetables to the state by 103 percent and for the very first time the republic procured almost 8 million tons. The plans for purchasing cabbage, common onions, carrots and table beets were over-fulfilled. This summer these successes must be consolidated and further developed. The task advanced by the Food Program must be carried out in a strict and consistent manner: to improve the supply of fruit and vegetable products and potatoes for the population by further increasing their production and raising their quality and also to reduce product losses sharply during shipments from the fields to the consumers.

Today there is every reason for stating that a unified complex has been created and is operating in the Russian Federation for the production, procurement, processing, storage and sale of fruit and vegetable products. This circumstance serves to explain to a large degree the fact that last year alone the sale of vegetable products to the state increased by 22 percent. Forty two Plodoovoshchkhov agroindustrial associations coped successfully with their vegetable production tasks. The specialized fruit and berry sovkhozes of our ministry fulfilled their plan for the production of fruit and berries by 103 percent, purchases -- by 106 percent.

The vegetable growers in Moscow, Leningrad, Rostov, Astrakhan, Kurgan, Saratov and Omsk Oblasts made worthy contributions towards the results achieved. This also holds true for the vegetable growers in Krasnoyarsk Kray and in the Chuvash ASSR. Highly profitable vegetable growing farms are in operation here -- mainly large spetskhozes /specialized farms/.

The Verkhnemullinskiy Sovkhoz is well known far beyond the borders of Perm Oblast. Vegetables are grown on an area of 1,824 hectares at this farm, with 300 or more quintals being obtained from each hectare. The sovkhoz sells 50,000 or more tons of vegetables to the state. Last year it sold 62,000 tons.

The Zaokskiy Sovkhoz in Moscow Oblast is a large supplier of vegetables. Each year a stable yield of 500 or more quintals of vegetables per hectare is obtained here. In 1982 the average yield at the Zaokskiy Sovkhoz reached 570 quintals. And the brigade headed by Hero of Socialist Labor, State Prize Laureate and deputy to the USSR Supreme Soviet Galina Illarionovna Rybakova obtained 772 quintals from each of 300 hectares.

The highest indicators in fruit production were achieved in Tula and Kursk Oblasts. Based upon last year's operational results, they won the all-Russian socialist competition for increasing the production and purchases of fruit and berries and were awarded the Challenge Red Banner of the RSFSR Council of Ministers and the AUCCTU.

From year to year, high fruit yields are being obtained at a specialized farm -- the Sadovod Sovkhoz in Krasnodar Kray. In 1982, an average of 148 quintals of fruit was obtained here per hectare. The Oboyanskiy Sovkhoz in Kursk Oblast obtained 130 quintals, Kagal'nitskiy in Rostov Oblast -- 188 and the Starodubskiy Sovkhoz in Bryansk Oblast -- 175 quintals per hectare.

Recently a noticeable expansion has taken place in the assortment of vegetable products. The purchases of green and rich vegetables have increased by more than 103,000 tons and the vegetable sales plan was fulfilled by 117 percent. Fine successes were achieved in this regard at the Sovkhoz imeni Mossovet in Moscow Oblast, where each year 7,500-8,000 tons of 22 types of green vegetables are obtained. Eighteen green and scarce crops are being grown at the Sovkhoz imeni Tsiolkovskiy in Kaluga Oblast.

Hothouse vegetable production -- a new agricultural branch that employs industrial technologies -- is developing at a rapid rate in many regions of the republic. Last year alone, 106 hectares of winter hothouse space were placed in operation at sovkhoses of the Ministry of the Fruit and Vegetable Industry. At the present time, there are more than 150 hothouse combines in the republic, of which number 40 have areas of 12 or more hectares. All of this is making it possible to improve the supply of early vegetables for the population. In 1982 the gross production of hothouse vegetables was 650,000 tons, compared to only 214,000 tons in 1970.

Certainly, the highest economic and production indicators are to be found at the large-scale hothouse combines. In 1982 the Moskovskiy Sovkhoz (a hothouse area of 54 hectares) obtained 33.6 kilograms of vegetables from each square meter. The labor expenditures per quintal of output amounted to only 4 man-hours, the profit per hectare was 252,000 rubles and the production profitability -- 146 percent. The team headed by V. Marchenko at the Pursey Sovkhoz in Irkutsk Oblast obtained 45.7 kilograms of vegetables, including 34 in cucumbers from its winter hothouses.

An increasing degree of importance is being attached to the new mushroom production branch. The production of field mushrooms on an industrial basis is being carried out at the Moskovskiy Sovkhoz of Mosplodoovoshchkhov and the Leningradskiy Sovkhoz of Lenplodoovoshchkhov. They have a planned capability for each producing 700 tons of mushrooms annually per hectare of field mushroom complex. High indicators have been achieved at the Moskovskiy

Sovkhoz. In 1982 this farm produced 860 tons of mushrooms per hectare, the annual yield was 86 kilograms per square meter and the production cost per quintal of product -- 130 rubles. The sovkhaz realized a profit of 1,140,000 rubles. This new branch is presently being developed in Gorkiy and Chelyabinsk Oblasts, in the Chuvash ASSR and in the Altay and Stavropol Krais. A unique complex for producing the mycelium for field mushrooms has been placed in operation at the Zarech'ye Sovkhoz. This is making it possible to produce one's own planting stock and to expand the construction of mushroom cellars around the republic's industrial centers. The development of this profitable and needed branch will make it possible to utilize hothouse facilities in a more efficient manner.

Last year some improvements were carried out in the canning industry. The plan for the sale of industrial products was fulfilled by 104.4 percent and for the sale of marketable goods -- by 103.4 percent.

In the daily operations of the fruit and vegetable complex, an important role is played by those problems concerned with improving the procurements, storage and sale of the products.

The volume of procurements was increased and the zones for procurement work by organizations of our ministry expanded. This made it possible to purchase 6,543,000 tons of vegetables, fruit and potatoes last year (1 million tons more than the amount purchased in 1981). Increases were recorded in the volumes of product procurements carried out in the production areas.

The work of procurement organizations has been organized especially well in Volgograd, Vologda, Kuybyshev, Omsk and Tyumen Oblasts and in the Chechen-Ingush ASSR. Here the proportion of procurements carried out within the Plodoovoshchkhaz System amounts to 71-92 percent of the overall amount of procurements.

Enterprises of the Plodoovoshchkhaz System fulfilled their plan for shipping products to the all-union and republic funds by 106 percent. Last year the tasks for placing vegetables and potatoes in storage were fulfilled. Almost 66 percent of the products were placed in storage using progressive methods.

The Basic Directions for Developing the National Economy call for improvements in the forms for procuring food products. Direct contacts with the processing and trade enterprises should be developed on a more extensive scale and an increase should take place in the acceptance of products directly in the production areas. These are two vital tasks. Fine results in organizing the acceptance of products in the production areas have been achieved in Volgograd, Omsk, Chelyabinsk and Sverdlovsk Oblasts and in Stavropol Kray, where in 1982 more than 50 percent of all of the vegetables were accepted directly on the farms.

Direct contacts between the farms and trade enterprises will be further developed. Last year, 30 percent of the overall volume of procurements by fruit and vegetable trade enterprises were carried out by means of the "field-to-store" system.

Considerably greater attention is now being given to the fruit and vegetable trade. Last year its volume increased by 396 million rubles. Progressive trade methods -- self services, sale of goods from packaging equipment and trade on the basis of advance orders -- have undergone further development. Fifty seven percent of all fruit and vegetable stores are presently operating on the basis of the self servicing method. This indicator should be raised to 70 percent by the end of the five-year plan. The number of stores selling packaged goods increased from 390 to 445. The turnover of goods at stores and trade enterprises which operate on the basis of orders increased twofold.

However, one cannot help but take note of the shortcomings and unsolved problems. As yet, very little use is being made of the potential offered by production specialization and concentration and inter-farm integration. The experience of leading agroindustrial associations is being disseminated only slowly. For example, this applies to such organizations as Zhiguli and Kryazh in Kuybyshev Oblast and Konservplodoovoshch in the Chechen-Ingush ASSR.

Many farms are not devoting sufficient attention to raising the fertility of their soil or increasing the return being realized from a reclaimed hectare of land. Vegetable growing and particularly fruit production are only slowly being converted over to irrigation. Meanwhile, the experience of leading sovkhozes is convincing: the production of vegetables and fruit is developing in a stable manner in those areas where such production has been converted over to irrigation.

Clearly poor use is being made of the experience accumulated in the use of industrial technologies for the cultivation and especially the harvesting of vegetable and fruit and berry crops. Just as in the past, the level of mechanization in these branches lags considerably behind the level for other branches of agricultural production.

But, if you please, the worst bottleneck is seed production. There is no need for explaining that in the absence of seed for modern regionalized varieties, in the required amount and assortment, there can be no discussion regarding substantial improvements in vegetable production. Yet today seed production is the most backward sector of our branch. The majority of the seed production farms are operating on the basis of antiquated methods and the production of seed for vegetable crops is not viewed by them as being a leading branch. Thus we believe that this fact explains why the 1982 plan for seed procurements in the RSFSR was fulfilled by only 60 percent and even less in the case of Rossemovoshch farms -- 53 percent. In particular, the farms in Krasnodar Kray, in Tambov and Kursk Oblasts and in the Chechen-Ingush ASSR are obligated to the state.

Scientifically sound crop rotation plans and an optimum structure for the areas under crops are being introduced into operations extremely slowly on many seed production farms and very little is being done aimed at converting seed production over to irrigation and intensive managerial methods. And a most important concern -- the lack of exactingness towards leaders and specialists for disruptions in the seed production and procurement plans. And here it is appropriate to reproach the republic Rossemovoshch and Rossortsemovoshch Associations. They must display greater business-like efficiency and initiative and also concern for strengthening production discipline on their farms.



The canning industry is in need of strong improvements. Notwithstanding the fact that we achieved a certain amount of output growth in 1981, the production plan for canned goods was still not fulfilled. Here, in addition to creating the raw material base, considerable improvements are required in the use of existing capabilities, the plan for the modernization and expansion of canning plants must be implemented and the canning industry must be "advanced" into the Urals region, Siberia and the Far East.

In 1983, the workers attached to Russia's fruit and vegetable complex must sell no less than 8 million tons of vegetables and 1.6 million tons of fruit and berry products to the state and expand their assortment and raise their quality considerably. For the purpose of carrying out the planned program during the current year and prior to the end of the five-year plan, a complex of measures will be carried out aimed at intensifying production specialization and concentration, strengthening the logistical base and building hothouse combines and facilities in which to store the products. Prior to 1985, the plans call for the construction of hothouse combines for an overall area of 816 hectares, fruit storehouses for 259,000 tons, vegetable and potato storehouses for 750,000 tons and refrigeration units for 30,000 tons. The plans call for the complete construction in 23 oblasts, krais and ASSR's of 40 new specialized farms for vegetable-dairy, seed production and meadow-culture operations. The timely placing in operation and efficient work by new sovkhoses established on reclaimed and irrigated lands will make it possible to obtain stable and guaranteed fruit and vegetable crop yields and at the same time it will promote stability in the branch.

Extensive use has been made of the collective contract in our branch in recent years. Last year this method was employed by 625 subunits in field crop husbandry and 88 in animal husbandry operations. In the near future we plan to introduce the job contract method into operations at enterprises of the processing industry.

During the initial months of this year, the ministry's farms ensured fulfillment of the established production and procurement plans. Twelve percent more vegetables, 20 percent more milk and 10 percent more meat were delivered. The plan for the production of canned goods was fulfilled by 102.7 percent. The successful solving of the tasks confronting the fruit and vegetable complex will constitute a worthy contribution towards carrying out the Food Program.

COPYRIGHT: "Sel'skoye khozyaystvo Rossii", No 7, 1983

#### Special Concerns of Vegetable Growers

Moscow SOVETSKAYA ROSSIYA in Russian 26 Jul 83 p 1

/Article by A. Shchegolev: "Green Fires"/

/Text/ The clean and uniform rows of seedlings at the Krasnoyarskiy Sovkhoz are pleasing to the eye. An exacting inspector would find nothing to complain about on the fields containing cucumbers, tomatoes, carrots, beets, cabbage and other garden crops. All of the inter-row tillings of the plants were



carried out on time and in a high quality manner. The vegetables of Siberia are ripening in a strong manner and the day is not far off when they will be available on the counters of stores in Krasnoyarsk Kray.

"We received fine assistance from the youth at work and rest camps" related the farm's chief agronomist G. Rekhovskaya, "For example, 200 pupils from the Berendey Camp carried out weeding work on 60 hectares in just 18 days."

But another picture greeted us on the fields of the Yesaul'skiy Sovkhoz. Together with the chief agronomist we were walking alongside some tall weeds which had smothered some as yet unformed cabbage heads.

"This sector was assigned to a construction administration for geologists" stated the farm specialist, "The task was issued in the middle of June and as yet not one of the patrons has appeared on the field. As a result of their negligence we are losing productivity both here and in other areas."

A graphite factory, the administration of the Krasnoyarskstal'konstruktsiya Trust and a silk combine are all under an obligation to the farm. They go out onto the sovkhos fields on an irregular basis and perform low quality work.

"The city-dwellers utilize their working time in a very unsatisfactory manner out on the sovkhos fields" stated the 1st secretary of the Berezovskiy Rayon Committee of the CPSU P. Chuprov.

At an inter-school komsomol camp Yunost' at the Berezovskiy Sovkhoz, we encountered a lifeless building and a dining hall without tables.

"Each day the youth bring their things and assemble in the schoolyard. But again and again we are forced to call off the departure: the camp is not prepared" complained the teachers.

Vegetables are being grown on almost 6,000 hectares in Krasnoyarsk Kray. The fields are not being operated at maximum capability owing to the fact that they are not being tended properly in all areas. The status of the plantings at the sovkhoses Beloyarskiy in Achinskiy Rayon, Dorokhovskiy in Nazarovskiy, Zykovskiy in Berezovskiy Rayon and on other farms is arousing special alarm. Here the "green fire" has seized areas occupied by cucumbers, cabbage, carrots and beets.

#### Problems of Vegetable Processing Plant

Moscow SOVETSKAYA ROSSIYA in Russian 26 Jul 83 p 1

[Article by A. Usol'tsev, Novosibirsk Oblast: "Plant Standing Idle"]

[Text] One can encounter all types of garden vegetables on the fields of the Zheleznodorozhnyy Sovkhoz, which is located in the direct vicinity of Novosibirsk. Here cucumbers, cabbage, carrots, radishes marrow squash and brush pattypan are cultivated. There is even room here for bitter horse radish, which for a long period of time has been recognized among the people as a fine flavoring for meat dishes.

"The plan for this year calls for 4,100 tons of vegetable products to be delivered to the state" stated the director of the sovkhos V.G. Bondarenko, "At the present time, we are carrying out the inter-row tilling of the seedlings, weeding, applying a top dressing and watering the crops. Before long the mass harvesting of the vegetables will commence. There is one other unfortunate fact. A portion of these crops should be preserved and yet we lack the potential for doing so.

The Novolugovinskiy Vegetable Canning Plant, which was turned over to the farm last year, must produce 4 million conventional tins of canned vegetables annually. However the enterprise has not succeeded in achieving its planned capability. It lacks the required equipment, a reliable production base and housing for its workers.

The management of the Novosibirskplodoovoshchkhos Association, obviously in the hope of radical modernization work being carried out, has done very little to rescue the enterprise from its difficult situation. At the present time, the roof of the pickling department is in a state of disrepair and the wall of a garage is being held up by means of supports. Old wrapping machines have broken down. The plant has had to cease operations in order to carry out repair work.

"The situation is truly complicated" admits the chief of the Novosibirsk-plodoovoshchkhos Association V.F. Kozhanov.

And indeed only last year the management of the association was informed regarding the calamitous state of the enterprise. Why is this fact only being recalled now by Novosibirskplodoovoshchkhos, on the eve of the busy season? It bears mentioning that the association's Novolugovinskiy Plant is practically the only enterprise for the processing of vegetables. On the counters of the Novosibirsk stores one encounters tins of canned cucumbers from Central Asia or pickled cabbage from the Moscow region. Meanwhile, hundreds of tons of vegetables grown on Siberian fields are still not being used.

### Vegetable Production in Siberia

Moscow SOVETSKAYA ROSSIYA in Russian 26 Jul 83 p 1

/Article by V.S. Mogutov, deputy chief of Main Administration for Vegetable and Melon Crops of RSFSR Minplodoovoshchkhos/

/Text/ The Krasnoyarsk correspondent for SOVETSKAYA ROSSIYA was correct: Siberia is often being supplied with vegetables which can be grown and placed in storage locally. The need for developing self-support to the maximum possible degree is emphasized in the Food Program.

From a weather standpoint, this year has not been too favorable for vegetable production in Siberia -- prolonged cold replaced by hot weather and insufficient moisture supplies in the soil in a number of areas. However, high yields are developing in those areas where the tending and watering of the crops were organized in a fine manner. At sovkhoses of the Krasnoyarsk

Plodoovoshchkhov Association, mechanized inter-row tilling was carried out twice on the entire area of vegetable plantations. Industrial technologies are being employed successfully for the cultivation of vegetables. The farmers are receiving assistance from patrons.

Generally speaking however, the situation out on the vegetable plantations is arousing some alarm: the rates for tending the crops are inadequate. In Tyumen Oblast the vegetable crops are developing in a fine manner. But up until recently the tending of these crops was left entirely to students. As a result, the work of inter-row tilling and weeding was carried out late here. This work also fell behind in Novosibirsk, Irkutsk and Chita Oblasts and in the Buryat ASSR.

The first vegetables of local production have already appeared on the counters. The purchasing rates at the present time are higher than those for last year: in western Siberia by 10 percent and in eastern Siberia -- by 26 percent. Once again the farms in Krasnoyarsk Kray and in Tomsk and Omsk Oblasts have increased their deliveries of early vegetables (mainly owing to production on sheltered ground). However the production of early vegetables in Novosibirsk Oblast was 11 percent less than the figure for last year. The Kayskiy Sovkhoz in Irkutsk Oblast, Bezrukovskiy Sovkhoz in Kemerovo Oblast and other farms are obtaining low vegetable yields from gardens grown under glass.

7026

CSO: 1824/104

## POST HARVEST CROP PROCESSING

### POTATO, VEGETABLE PROCUREMENT PROBLEMS IN STAVROPOL KRAY

#### Procurement Problems

Moscow SOVETSKAYA ROSSIYA in Russian 30 Aug 83 p 2

[Article by V. Seliverstov, Stavropol Kray: "Between the Field and the Counter"]

[Text] Alarming signals have been received by the editors of SOVETSKAYA ROSSIYA--in Stavropol Kray dozens of rail cars of vegetables have disappeared. It is as if they were thrown into the water, disappearing without a trace. Sovkhozes produced them, but the consumer never received 1,500 tons of cucumbers, pumpkins and cabbage. People began to try to figure out what had happened. It turns out that these vegetables, loaded into KamAZes, GAZes and ZILs [Automobiles produced by the Kamskiy Automobile Plant, Gor'kiy Automobile Plant and the Moscow Automobile Plant imeni I. A. Likhachev respectively], travelled past troughs, procurement offices and bases to farms to be used as feed for livestock. During the same time commodity workers were trying to sell stale, wilting cabbage brought thousands of versts from another republic. Some enterprises did not even try to bring it to the stores, plowing under the early Belokachannaya with the roots.

How could this happen? Trading organizations concluded contracts for the delivery of early cabbage from Azerbaijan in order to sell it before its own Stavropol cabbage was ready. But suppliers violated the schedule and sent it later when Stavropol farmers had nowhere to send their better quality cabbage.

"This is outrageous!" said V. D. Prutkov, deputy director of the association Stavropol'plodoovoshchkhov [Stavropol fruit and vegetable industry association], while presenting a report to his ministry's board.

It would seem that after this he would roll up his shirt sleeves and begin to correct existing errors. This did not happen, however.

The imagination painted still another picture--the alarm was sounded not only by board members but by local workers as well. We went to the kray committee of people's control. Here they probably knew about the extraordinary incident.

"Why are you surprised?" said the deputy chairman of the committee of people's control, N. I. Makhotenko. "Every year some vegetables are lost. This year is no exception."

In other words, we have gotten used to mismanagement and so can you. He could say nothing specific about the lost early vegetables. One and a half thousand tons went past people's control workers. No trace of them could be found in documentation of other control organization in the kray either. The association's inspector, V. P. Salov, had no documentation either. Only a lawyer for this organization, Verevkin, had a folder with three documents concerning the perishing of 385 tons of cabbage in the Tishchenskiy Sovkhoz.

"The alarm has been exaggerated," says V. D. Prutkov soothingly. "I cannot understand where you got such a large figure for losses--1,500 tons of vegetables."

Here is the kind of strange situation that developed. Viktor Dmitriyevich Prutkov, who directs Stavropol'plodoovoshchkhov, refutes Viktor Dmitriyevich Prutkov, who spoke to the board of the ministry of the fruit and vegetable industry.

The deputy director of Stavropol'plodoovoshchkhov in the area of economy, N. G. Pochekeyev, together with the head economist of the planning division, V. I. Zvyagintsev, spent a long time on the telephone collecting information for a summary report. It contained charts about the quantity of vegetables sent to be used as feed for livestock and the quantity sent to the dump. According to telephone data it turned out that the Tishchenskiy Sovkhoz alone used 700 tons of vegetables as fodder. In the association as a whole the figure was a solid one--over 3,000 tons.

It is a hot August afternoon. Mikhail Prokopenko, tractor operator of the Kavkaz Sovkhoz-Plant, is hauling away the third trailer loaded with overly ripe pumpkins to the fattening complex.

"We have loaded the complex with them," he says, "and they don't want them. I find it necessary to thrust the pumpkins on them with difficulty."

That day almost every other truck with pumpkins was going to the fattening complex. This day was not exceptional.

I visited two plants--Georgiyevskiy and Izobil'nenskiy. Despite the fact that on the raw materials platforms there were entire clamps of pumpkins and cucumbers both were not working at full capacity. The directors of the enterprises explained that this situation was due to a shortage of workers. Nevertheless, even those lines that had sufficient numbers of workers frequently had to stop because of breakage. On the day that I was in the Izobil'nenskiy Plant only one of three stoves for processing pumpkins was in operation.

There is a shortage of workers in vegetable raising enterprises as well. This is an old problem. The status of the branch depends to a large degree on



whether outsiders will come to harvest vegetables. But this is not all it depends on. It would seem that in such a situation with cadres enterprises would grab with both hands at new, progressive technology for cultivating and harvesting vegetables that here has been called the Astrakhan method. It provides for a significant curtailment of manual labor. Its use in Astrakhan Oblast facilitated the release of 17,000 persons from cultivating vegetables and harvesting them. In Stavropol Kray the new technology is looked upon timidly, with the excuse that the necessary machines and mechanisms are not available.

There is another reason why many vegetables are lost. The chase for the celebrated gross output is very detrimental. Sovkhozes are responsible to associations; associations are responsible to ministries with respect to gross indicators--tons of production output.

The depravity of gross indicators has a particularly evident effect on the quality of cucumbers. It was the gross indicators that destroyed the most valuable cucumber varieties--gherkins and small cucumbers 5-9 centimeters long. Although the state has established a high procurement price for them--almost triple the regular price, the association foresees correspondingly high prices for harvesting and sorting them so that cucumbers of this size are not harvested in the enterprises of Stavropol'plodoovoshchkhov. After all, the larger the cucumber, the greater its weight and the larger the number on the chart under "Amount produced."

At the sorting point of the Pravoyegorlyk'skiy Sovkhoz work is in full force despite the fact that it is Saturday. Students from Lithuania stand near the conveyor sorting cucumbers. Stackers with packed crates are growing rapidly. More and more trucks with fresh vegetables are arriving from the fields. But here in the crates are cucumbers harvested on Friday and even Thursday. The "field to store" conveyor is obviously being disrupted.

"I don't understand anything," says the sovkhov director N. K. Baranov. "We cultivated an adequate harvest. Look at the cucumbers--they are succulent and green, but the market is turning them down, saying that they do not meet GOST standards."

"There must be some sort of misunderstanding," adds the secretary of the Trunovskiy Rayon party committee, A. I. Tomilin. "Such cucumbers cannot be fed to animals."

"I have been given orders to receive products only according to GOST standards," says A. R. Molotkov, representative of Stavropol'plodoovoshchorg.

In fact, according to this document, which was confirmed 15 years ago, the Konkurent cucumber variety is rejected--not because of taste properties or degree of maturation, but because of size.

"Let them lower procurement and retail prices for them, selling them to people for 5 kopecks per kilogram instead of 10," says the sovkhov director. "I am sure that the consumer will buy them. As for GOST, it could not take



everything into consideration. A new variety has appeared; it was developed from our Nezhenets and American cucumbers and it turned out very long."

This is not the only barrier between the field and the store counter. In the final analysis GOST can be reexamined and a few centimeters can be added to the standard. It is more difficult to regulate the mechanism of economic mutual trade relations with the producers of cucumbers. Things must be organized in such a way that the interests of cucumber producers do not conflict with the interests of consumers and therefore of the state. What types of conflicts could there be? In order to provide incentives in the marketplace as well as for the producers of cucumbers the state increased procurement prices on the one hand and on the other is reimbursing from its own pocket the difference between the procurement and retail price, which has remained unchanged. Nevertheless, trade workers are not interested in taking in inexpensive products.

"The things that are more expensive are taken immediately," admits the director of the Stavropol'plodoovoshchkhov association, G. K. Gorlov. "Inexpensive products must almost be forced on stores--we deliver them to the stores ourselves."

What is the answer? How can we make trade workers deal equally with expensive and inexpensive products? Apparently we must develop a system of wages for sales workers that would interest them in selling as many vegetables as possible regardless of their price. In other words wages should be based on personal work without tying them to expenditures for production output (which, incidentally, is required by one of the fundamental principles of socialist economy--to each according to his labor). On the other hand we must increase the responsibility of all participants in the "field to store" conveyor. The association has not as yet relieved itself of all bad workers.

#### Follow-Up on Status of Harvesting, Procurement

Moscow SOVETSKAYA ROSSIYA in Russian 15 Oct 83 p 2

[Article by N. Komissarov, deputy minister of the Fruit and Vegetable Industry of the RSFSR: "Examined in the Ministry"]

[Text] The board of the ministry of the fruit and vegetable industry examined the article, "Between the Field and the Counter," published in SOVETSKAYA ROSSIYA on 30 August and it feels that the article correctly reflects extensive shortcomings in the work of the fruit and vegetable complex in Stavropol Kray. The article was also discussed at meetings of party organizations and at the production meeting of the association's apparatus. Specific measures were developed to strengthen the pace of harvesting operations and to improve the work of trade enterprises and the canning industry.

A decision by the bureau of the CPSU kray committee and the executive committee of the kray soviet of people's deputies strictly admonishes the director of the association, G. K. Gorlov, for the serious shortcomings in operations. The director of the Kavkaz Sovkhoz-Plant, A. P. Rubaylo, has been dismissed from his position as a result of unsatisfactory management. Trade directors and other responsible parties who tolerated serious shortcomings have been strictly punished. The board has chastized the deputy director of the Stavropol'ploodoovoshchkhov association, A. M. Blinnikov.

At the same time the board noted that the introduction of industrial technologies in vegetable farming was being hindered by the totally inadequate output of technology necessary for this.

The organization of fruit and vegetable trade requires the maintenance of orderly accounts on production and an evaluation of the work of trade enterprises. There is unquestionable interest in the proposal to reimburse the labor of trade workers per ton of goods sold and not for commodity turnover, as is done now.

8228

CSO: 1824/103

## POST HARVEST CROP PROCESSING

### PROGRESS, PROBLEMS IN POTATO STORAGE

#### Improving Facilities

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 24 Aug 83 p 1

[Article: "Accelerating the Pace"]

[Text] At the regular meeting of the Committee on Questions of the Agro-Industrial Complex of the Presidium of the USSR Council of Ministers on 22 August there was an examination of the course being taken to fulfill the decisions of the party and state concerning the building of facilities to receive and store mineral fertilizers and other means of chemicalization in the associations of Sel'khozkhimiya [Agricultural equipment association] and in kolkhozes and sovkhozes.

It was noted that in a number of republics, krays and oblasts a material-technical base for chemicalization is developing rapidly. Considerable work in this direction has been done in the enterprises of Moscow, Kharkov and Belgorod oblasts, the Tatar ASSR and other regions of the country. At the same time some republic, kray, oblast and rayon agro-industrial associations are not taking effective action to eliminate shortcomings in the building of production bases and mechanized storehouses near railroad lines for the reception and storage of agricultural chemicals and they are resigned to the fact that the schedules for putting them into operation are not adhered to. Serious criticism was directed at the work of the USSR Ministry of Agricultural Construction, USSR Ministry of Construction, USSR Ministry of Industrial Construction and USSR Ministry of Transportation Construction, which tolerated lags in the building of the aforementioned structures. The committee has demanded that the directors of the corresponding ministries secure the unconditional fulfillment of established tasks related to the putting into operation of storehouses for the reception and storage of mineral fertilizers and other means of chemicalization in 1983 and in subsequent years.

The committee determined measures to increase the production of potato products within the system of the USSR Ministry of the Fruit and Vegetable Industry and the USSR Ministry of the Food Industry. With this goal in mind orders were given to the corresponding ministries and departments concerning accelerating the renovation and operational start of potato-processing enterprises and concerning equipping them with technology.

There was a discussion about proposals to accelerate the introduction of automatic control systems using microprocessing technology in the agro-industrial complex.

Other questions were also examined.

#### Conditions for Optimal Potato Harvest

Moscow SEL'SKAYA ZHIZN' in Russian 8 Sep 83 p 2

[Article by A. Serdyukov, director of the Main Administration for Potatoes, Vegetables and Melon Crops of the USSR Ministry of Agriculture, and S. Pakhomova, deputy director of the NIIKKh [Scientific Research Institute of the Potato Industry]: "The Harvest Is the One that Is in the Storehouse"]

[Text] The harvesting period has arrived earlier than usual in the country's potato fields. The vegetative period of all varieties is almost at an end, and the leading enterprises are hurrying with harvesting operations.

Potato farmers have the necessary material-technical base at their disposal--over 70,000 harvesting combines, 150,000 diggers and 33,000 sorting points. As a rule success is achieved in those places where harvesting is performed by large harvesting-transport complexes.

In some enterprises combines are used even on heavy soils. For example, in the Zaborovo OPKh [Experimental enterprise] of Ramenskiy Rayon, Moscow Oblast, tubers were planted at a shallow 6-8 centimeter depth in previously-prepared ridges and four links were created to cultivate potatoes. Two of these will work according to collective contracts. The preliminary preparation of the soil and a precise organization of the harvesting-transportation conveyor enabled the enterprise to complete potato harvesting in 16 days. Combine operator F. Solov'yev harvested 50 tons of tubers daily.

The most important aspect of combine harvesting is preventing losses. Sometimes, especially during the early days, 10-15 percent of the harvest remains in the soil as a result of the improper adjustment of machinery. Thus, losses equalled 15-20 quintals per hectare in the Kolkhoz imeni 9 Yanvarya of Borisoglebskiy Rayon and the Kolkhoz imeni Uritskiy of Gavrilovo-Yamskiy Rayon, Yaroslavl Oblast. This year there are many small tubers because of the drought and late blight, so it is essential to carefully adjust combines.

The depth of the plow, regulated by the control wheel, is tested to make sure tubers are not cut and that the separating organs are not overloaded with excess soil. In order to separate it with quality and to decrease damage to potatoes it is important to properly determine the height of the conveyor band of the main elevator. The pressure in balloon-lump crushers and the frequency of grid fluctuations in the sifter are regulated according to the lumpiness and dryness of the soil. The gap in the lifting drum between the tray and the blade is about 1.5 centimeters. If it is larger, losses are unavoidable; if smaller, the blade may begin to catch the tray, which can cause an

accident. It is important to correctly adjust the haulm-distancing mechanism and the angle of the gravity cleaner, to secure the partition transporter in the necessary position and to adjust the safety couplings and the tension of the chains.

With a 180-200 quintal productivity on light and medium, well-aerated loamy soil potatoes are harvested using a combined method--first the standard UKV-2 digger-swath packer is used to dig up potatoes from two, four or six rows and then a combine is used to pick them up. The combined method of potato harvesting raises the productivity of harvesting machines by a factor of 1.6-2.

Haulm can be removed by the KIR-1.5 and KIR-1.5B machines. For crops that are being used for seed purposes the above-ground portion should be treated 10-12 days prior to harvesting with magnesium chlorate in a dose of 25-30 kilograms per hectare or with reglon (2 kilograms), using no fewer than 400 liters of active liquid. A combined method can also be utilized--first the haulm can be cut and then the area treated with the aforementioned preparations, but at half the dose.

After the haulm is destroyed in fields with packed soil the soil should be loosened in interrows with arrow-shaped blades and bits to a depth of 8-10 centimeters. This method will increase air circulation to tubers and facilitate harvesting. Cultivators with active working organs can also be utilized for this.

On heavy, overly-moist soils KTN-2V and KST-1.4 potato diggers are used if there is an adequate amount of harvesting technology and an adequate number of workers.

Batches of wet tubers should be kept in sheds, temporary bunkers or under awnings for 2-3 weeks before permanent storage. The height of the pile should not exceed 1 meter. The pile is examined and rotten tubers are removed. Sometimes it is sufficient to dry them on the fields for 3-4 hours. Potatoes with obvious late blight or wet rot should not be put in the same place as healthy potatoes.

Special attention must be given to storing seed tubers. In many oblasts they are stored in trenches and pits. This requires that farm directors and specialists pay greater attention and have more knowledge about storage technology. Unfortunately, there are still cases in which seed potatoes are spoiled or perish because of storage violations. For example, in the Put' Il'icha Sovkhoz of Michurinskiy Rayon and the Leninskiy, imeni Kirov and Tuzdinskiy sovkhoses of Tel'manskiy Rayon, Karaganda Oblast, one-third of seed potatoes were infected with wet or dry rot.

In storehouses equipped with active ventilation seed potatoes are loaded to a height of no more than 3 meters; with natural ventilation--1.5 meters.

Batches of potatoes in which over 10 percent of the tubers are infected with late blight, bacteriosis or wet rot, with signs of perishing, should not be



placed in permanent storage in pits or storehouses immediately. They should be kept under an awning, in sheds, in grain storage areas or in temporary pits for 10-15 days.

During the first "treatment" period of storage lasting 2-3 weeks a temperature of 13-18 degrees is maintained and the relative humidity in the air is kept at 90-95 percent. Under these conditions the mechanical damage to skin is repaired more rapidly and infection of tubers with rot is avoided. Subsequently, seed tubers of varieties such as Domodedovskiy, Priyekul'skiy Ranniy, Belorusskiy and Falenskiy are stored at a temperature no lower than 2-2.5 degrees. Later varieties retain their vitality at a temperature as low as 1.5-2 degrees.

Some batches of seed potatoes with signs of late blight or bacterial disease can be treated with poisonous chemicals--a suspension of benlat (benomil, fundozol) at a usage rate of 0.5-1 kilogram per ton. During storage formalin (1-4 milliliters per ton of seed) should be introduced via the active ventilation system over a period of 6 hours. Then the facility must be aired for 12-20 hours. Potatoes treated in this way cannot be used as food for humans or as feed for animals.

Special attention should be given to the variety quality of seed funds. This will affect the productivity of the following year's harvest to a large degree. The achievement of stable harvests is possible only if every enterprise cultivates three or four varieties with different maturation times.

An important task for the agronomist services on farms is to preserve the entire harvest of regionalized and promising, large-yield varieties for seed purposes, particularly the elite.

It is essential to organize the replowing of harvested fields with the subsequent collection of tubers while harvesting operations are proceeding and while seed is being stored.

#### Preserving the Harvest

Minsk SEL'SKAYA GAZETA in Russian 15 Sep 83 p 2

[Article by M. Vladimirov: "Harvesting and Preserving All that Is Raised"]

[Text] Fall always brings with it many important and undelayable matters for the village worker. Today too he must simultaneously sow winter crops and plow fields, harvest potatoes and vegetables, work with flax, procure feed and prepare livestock farms for winter. In other words, there is a lot to be done. The main task is to deal economically with all that has been cultivated in the fields.

Of course the most important thing now is the potato harvest. This important industrial, feed and foodstuffs crop is rightfully called "the second bread" by the people. It is particularly significant for our republic. The



political information worker and the agitator should remind his listeners of at least the following data--the Belorussian potato fields occupy over 360,000 hectares and the potato harvest comprises one-sixth of the total for the country. We send large quantities of potatoes to Moscow, Leningrad and the northern regions. The consumer must receive quality products on schedule. From this stems the particular responsibility of the farmer.

If we speak in concrete terms about the harvest schedule we must say that enterprises must spend 20-25 days on harvesting and finish the work no later than 1 October. It should be remembered that lateness always results in harvest losses. It has been determined, for example, that at a temperature below 8 degrees tubers become very sensitive to mechanical action. And traumatized potatoes lose their sales qualities and withstand storage badly.

During the harvesting of "the second bread," as in crop harvesting, success is achieved above all by those who organize labor skilfully and in a thought-out manner and who utilize technology efficiently. In this regard the experience of the farmers from Kletskiy Rayon is deserving of attention. It has already become a tradition that they are first in the republic to report the completion of the entire complex of harvesting operations. This year too things are going well for them. The following principle is the basis for their entire organization of potato harvesting--the creation of harvesting-transportation detachments, the utilization of all sorting points, securing an output of 2.5-3 hectares per combine daily in the rayon as a whole, the transport of 25-30 tons of potatoes per truck and the sorting of 120 tons of tubers per KSP [Potato sorting point]. As in previous years, socialist competition among machine operators is widespread in the rayon. Their goal is to bring potato harvesting up to 1,500-2,000 tons per season per combine.

The link headed by Hero of Socialist Labor Viktor Romanovich Masyutkin, a potato farmer well-known in the republic from the Dobrushskiy Breeding Plant of Dobrushskiy Rayon, is working creatively today. As we know, harvesting is being complicated now by the overdrying of the soil. For this reason the link's machine operators are placing great importance on pre-harvesting agrotechnical measures. The haulm is cut neatly about 2-3 centimeters from the top of the ridge. If necessary, additional interrow hoeing is performed. The depth of plows has been carefully adjusted so that tubers are not cut and so that there is less soil resistance to the movement of the unit.

It would seem that these are minor things. But this consideration and these precise calculations, together with selfless labor, enable the members of V. Masyutkin's link to achieve high indicators in work. Using the Ye-684 combine they harvest an average of 100 tons of potatoes daily.

We have many such examples. But of course before conducting a discussion one should become familiar with the status of the harvest of the "second bread" in one's own kolkhoz, sovkhoz, section or brigade. It is important to analyze the extent to which the methods utilized are in accord with today's recommendations and leading practices. In any enterprise there are machine

operators whose output is higher and whose work quality is better than that of others. It is necessary to more fully reveal this specific and more evident experience and to help to make it a universal achievement.

The quality of the harvest requires special attention, of course. A political information worker will be acting properly if he, together with the enterprise's economic service or with other specialists, determines the basic channels through which the harvest is lost and draws the corresponding conclusions from this. We know that a lack of adherence to the rules of technical adjustments for harvesting operations results in losses of up to 20-25 percent of tubers. The loss of only 1 quintal per hectare results in the underproduction of 45,000-50,000 tons of potatoes in the republic. Harrowing and reploting of potatoes enable us to produce an additional 20-30 quintals of tubers per hectare. According to modest calculations, this allows us to harvest 800,000 tons of potatoes. Improper storage of tubers also results in irreplaceable losses to the harvest. Such numbers and facts cannot be ignored; their weightiness must be recognized by every participant in harvesting operations.

To harvest all cultivated crops on schedule, to preserve the harvest and to deliver it to the consumer in top form--these are the primary obligations of each worker in the agro-industrial complex. It is the duty of political information workers and activists on the ideological front to help them in this with their battle and mobilizing words.

8228

CSO: 1824/105

## LIVESTOCK FEED PROCUREMENT

### MESYATS STRESSES HIGH-YIELD FEED PRODUCTION, INTENSIFIED PROCUREMENT

Moscow VESTNIK SEL'SKOKHOZYAYSTVENNOY NAUKI in Russian No 10, Oct 83 pp 3-12

[Article\* by V. K. Mesyats, USSR minister of agriculture: "Ways To Intensify Feed Production and the Tasks of Agricultural Science"]

[Text] A year has passed since the May (1982) Plenum of the CPSU Central Committee, which approved the USSR Food Program. Now the socioeconomic and organizational measures it drafted have begun to take full effect. Management of the agroindustrial complex is improving, the economic condition of the farms is becoming stronger. Progressive technologies and work methods are being widely assimilated in all the branches of agricultural production.

A mighty material and technical potential has been built in rural areas. In just the last three 5-year periods the total volume of capital investments in agriculture for the complex as a whole have amounted to 385 billion rubles--3.6-fold more than in all previous years of the building of socialism. The power per worker and deliveries of manufactured fertilizers have more than tripled, and the area of improved land has expanded 1.7-fold. All of this has afforded the possibility of increasing by 1.5-fold the gross output of agricultural product and of noticeably improving the diet of the Soviet people. Per capita meat consumption rose 41 percent over the three 5-year plans, milk consumption rose 25 percent, egg consumption almost doubled, vegetable consumption rose 35 percent, vegetable oil consumption 24 percent and sugar consumption 30 percent. We should bear in mind in this connection that the population has increased by 35 million since 1965, and the urban population by 46 million persons. Per capita agricultural output has risen 28 percent over that period.

The personnel in agriculture and the agroindustrial complex are being set tasks on a still greater scale for the eighties. They arise out the nationwide Food Program. We have a duty to achieve the growth of production of farm products set in that document over a 10-year period, whereas in the previous period it required 12 years for grain, 15 years for meat, and 10 years

---

\* Paper presented in a scientific session of VASKhNIL [All-Union Academy of Agricultural Science imeni Lenin] on the topic "Ways of Increasing Feed Production and Optimum Feed Use in the Light of Fulfillment of the USSR Food Program Over the Period up to the Year 1990," held 21 June 1983.

for milk. Fulfillment of the targets of the Food Program will make it possible by 1990 to increase per capita meat consumption by more than 20 percent, milk consumption by 5-8 percent, egg consumption by 9-11 percent, vegetable and melon consumption by 30-39 percent, and fruit and berry consumption by 74-84 percent.

One of the most complicated and crucial areas in which we must concentrate maximum efforts and resources is the further rise of animal husbandry. The party has declared it to be the shock front in rural areas. Even though in the caloric value of the diet our country is today among the most advanced in the world, still the pattern of the diet of the Soviet people needs to be improved. An essential change of direction has to be accomplished toward increased consumption of meat, milk and other nutritious products of animal husbandry. That in turn requires a decisive strengthening of the intensification of all branches of animal husbandry. We possess the real capabilities for this. The country's livestock population is adequate: as of 1 January 1983 there were 117 million head of cattle, 76.7 million head of swine, 148.5 million sheep and goats, and 1,072,000,000 head of poultry.

Science and practice have made a great effort to upgrade the herd. Over just the last 15 years 25 new breeds of livestock and poultry have been developed, 14 inbred and 29 pedigree types and 112 pedigree lines of farm animals have been created. All the country's livestock belongs to recognized breeds. Over that same period quite a bit has been done toward specialization and concentration of animal husbandry, toward putting it on an industrial footing. About 1,500 industrial-type poultry farms have been built and are in operation near major cities and industrial centers, which has solved the problem of supplying eggs to the population and has made it possible to triple the production of poultry meat. There are 3,373 large livestock-raising complexes in the country, which are already providing 27 percent of the pork, 5 percent of the beef and 6 percent of the milk produced in the socialized sector.

Zootechnical and veterinary work are improving according to plan. The shop flow system, the brigade contract and other progressive forms of the organization of work are being introduced on livestock farms and complexes. There are now 53,000 brigades and links working on the principles of the collective contract in animal husbandry. We have experienced personnel in animal husbandry.

We do have the basis for a growth of production of the products of animal husbandry. Nevertheless, it has to be admitted that today, when we must make the transition everywhere to intensive methods of animal husbandry, its productivity still remains low. Average milk production per cow in the 10th Five-Year Plan was only 2,331 kg in the country and still lower in the republics of the Transcaucasus. Productivity of the dairy herd over the last 10 years has not been rising, and in some places has even been dropping.

The average delivery weight of cattle, though it has risen somewhat over the 9th Five-Year Plan, is low even now in the country--353 kg.

In 1982 more head of cattle weighing less than 270 kg were sold to the state, and the average weight of sheep sold for meat did not exceed 35-36 kg. Average daily weight gains of cattle have remained no higher than 470-500 grams over the last 10 years, and that of swine 320-335 grams. In many republics and oblasts sterility of female breeding animals, diseases and loss (mortality) of animals have inflicted great damage.

The causes of all these shortcomings vary. There is no question that the development of animal husbandry has been adversely affected by serious oversights in breeding and zooveterinary work, by the continuing low level of the mechanization of work on livestock farms, and by mismanagement and irresponsibility on the part of certain farm managers and specialists. But the principal factor holding back the rapid growth of the production of meat, milk and other products of animal husbandry has been and remains the inadequate feed resources on many kolkhozes and sovkhoses. Average consumption per standard head was 2,500 fodder units in the 8th Five-Year Plan, 2,630 in the 9th, and 2,710 in the 10th. But 3,500 fodder units is the minimum necessary. Over the three 5-year periods the feed requirements of socialized animal husbandry was satisfied at a level of only 70-80 percent.

At the same time we have quite a few farms where the feed per standard head amounts to 4,000-5,000 fodder units or more. Even there there as a rule is a steady rise in product output. For instance, on the "Vyayke-Maar'ya" Kolkhoz in ESSR dairy cow production is more than 5,000 kg of milk, on the "Ploskovskiy" Breeding Farm in Kiev Oblast it is 5,650 kg, on the "Put' k kommunizmu" Kolkhoz in Moscow Oblast it is 5,732 kg, and on the "Petrovskiy" Breeding Farm in Leningrad Oblast it is 6,360 kg. The country now has 530 farms which are regularly achieving a milk production per dairy cow of higher than 4,000 kg and 4,300 kolkhozes and sovkhoses with a production of 3,000 kg or more. The farms in Kustanay Oblast in Kazakhstan, in Chelyabinsk and Kurgan Oblasts in RSFSR, in Fergana and Kashka-Darya Oblasts in Uzbekistan, and in Cherkassy, Poltava and Vinnitsa Oblasts in the Ukraine are selling the state young cattle weighing 400-450 kg at an age of 15-16 months.

Consequently, the speediest creation of stable feed resources in all republics and oblasts and on every kolkhoz and sovkhos constitutes an urgent task which farmworkers, managers and specialists of farms and agricultural agencies, and the personnel of scientific research institutes, organizations and institutions must perform with vigor and fierce determination.

The USSR Food Program calls for increasing feed production to 500 billion fodder units by 1985 and 540-550 billion by 1990, as against 369 billion fodder units, which was the annual average in the 10th Five-Year Plan. Coping with this responsible and complicated task requires raising the productivity of feed production both in fields and also in meadows and pastures.

We have here an area of work which has been untouched. Can we consider normal a situation in which kolkhozes and sovkhoses raising feed crops on 66 million hectares of plowland and with more than 322 million hectares of natural pastureland every year fail to supply livestock all the coarse and succulent feed and pasturage they need? The causes lie above all in the low yield of



feed crops. During the last 5-year period the average harvest of hay from perennial grasses was only 19.2 quintals per hectare, hay yield from annual grasses was 15.8 quintals, the yield of silage crops was 144 quintals, and the yield of root crops grown for feed 100-150 quintals per hectare. Over the last 10 years the average yield per hectare on the country's farms has increased in terms of fodder units only 1.5 quintals of perennial grasses for hay, 1 quintal for annual grasses, and 3 quintals for silage crops, while the yield per hectare of root crops grown for feed has even dropped.

Opportunities for expanding planting of feed crops on plowland, where we harvest three-fourths of the coarse and succulent feeds, have been practically exhausted. There is, then, one way out: in both the 11th and 12th 5-year periods a persistent effort is needed to raise the yield of all feed crops so as to obtain at least 28 fodder units from every hectare by 1985 and 3,200 by 1990, instead of the 2,100 which have been harvested.

The shortest route toward achievement of this goal is introduction of scientifically sound soil and crop practices everywhere. Steps have been taken in this direction. After the All-Union Agronomy Conference held in 1980 such systems have been developed and are being introduced in most of the country's oblasts, krais and republics. The experience of many kolkhozes and sovkhoses in Stavropol Kray, Omsk, Leningrad, Cherkassy and Kharkov Oblasts, a number of rayons in Belorussia and Kazakhstan, and also in Estonia and Lithuania show that the introduction of scientific soil and crop practices quickly shows up in higher yields of all farm crops.

A scientifically sound system of soil and crop practices, includes, as is well known, optimum crop rotation, combining the optimum pattern of planting with the necessary share of clear fallowland, especially in arid zones; rapid movement of new high-yield varieties and hybrids into the fields of kolkhozes and sovkhoses on the basis of large-scale feed production; highly efficient use of organic and manufactured fertilizers, drained and irrigated land, and equipment; adoption of industrial-type technologies, and extensive introduction of progressive forms of the organization of work and remuneration. Thus a scientific cropping system constitutes an entire set of interrelated measures which envisages creation of favorable conditions for the stable growth of production of grain, feed and other products in each republic and oblast, in each rayon and on every farm. But in UzSSR, TaSSR, KiSSR, certain oblasts of RSFSR and UkSSR, in AzSSR and MSSR scientifically sound cropping systems are being adopted slowly and still have not been brought to all the kolkhozes and sovkhoses. The explanation for this is that the zonal scientific research institutes, regional branches of VASKhNIL, and local agricultural agencies have not been sufficiently concerned with their application to production. This situation has to be corrected immediately. Adoption of proper crop rotation and improvement of the pattern in the area planted to various crops deserve particular attention. In many oblasts and rayons the proportional makeup of the area planted to feeds has still not been properly worked out. This is, of course, the job of local agricultural agencies and farm managers and specialists, who have now been granted the right to decide what to plant, when to plant, and how to plant. But crop rotation and the crop structure must be based on thorough scientific work and progressive

practice; preference in them should be given to those crops which under the particular soil and climatic conditions guarantee the greatest yield of fodder units per hectare.

On behalf of overall success there is an urgent need to substantially increase the portion of legumes in crops, above all peas, vetch and lupine. Science recommends that the structure of grain crops in various zones contain between 6 and 12 percent of legumes, but they occupy only 4 percent in the country. Recently the planting of legumes has been cut back in many areas of RSFSR, Moldavia and Kazakhstan. There is no justification for this. After all, without legume crops it is impossible to introduce scientifically sound crop rotation and to have good preceding crops and to solve the problem of feed protein production. The share of legume crops to grain planting needs to be raised to 10 percent even by 1985, and in the Ukraine, Belorussia, the Central Chernozem and Volga Economic Regions of RSFSR it should be increased to 12-17 percent, as recommended by the scientific research institutes of those regions.

At the same time there is a need to expand the planting of soybeans in areas favorable to its cultivation. In the Central Chernozem Region, the Middle Volga, West Siberia and Northern Kazakhstan it is possible to increase substantially the area planted to rape. Scientific institutions have a duty to develop without delay improved technologies for raising soybeans and rape for the soil and climatic conditions of the various zones, to speed up the development of high-yield varieties of those crops, to issue recommendations to farms concerning full mechanization of their growing, processing and efficient use.

Intensification of feed field crop production is unthinkable without improvement of the crop balance of perennial grasses. Cereal grasses now occupy about 50 percent, and the area planted to legumes is manifestly inadequate, especially in the case of alfalfa, clover and sainfoin, whose share should in the very near future be increased to 70-75 percent. Taking this into account, by 1990 clover crops in the principal regions where it is grown must occupy 8-9 million hectares, as against the present 6.2 million, and alfalfa at least 10 million hectares instead of the present 6.8 million hectares.

The grain crop balance has to be improved by expanding the area planted in every zone to forage crops with the highest yield. Their relative share in the country's average gross grain harvest must be increased from 43 to 50 percent. It would be wise to aim at increasing the area planted to spring barley and oats in the Urals, in Siberia, the Volga Valley and Northern Kazakhstan, which would accomplish two things at the same time--far more feed grain would be produced and the strain on harvesting operations would be reduced because of the early barley ripening dates.

Corn has a special role in increasing the harvest of feed grain. Unfortunately, not enough advantage is being taken of this very important potential in certain regions of the country. The share of corn grown for grain needs to be increased in the crop balance in Moldavia, in the steppe and forest-steppe zones of the Ukraine, in the Northern Caucasus, in the republics of

Central Asia and Southern Kazakhstan by concentrating its principal planting there. In those regions many farms are regularly producing 40-50 quintals of shelled corn per hectare on unirrigated land and 80-100 quintals per hectare with irrigation. At the same time, over the next several years there is a need to substantially increase its planting in the Central Chernozem Zone, the Volga Valley, the Ukrainian plesye, and the Transcaucasus. Otherwise we will not be able to bring the gross harvest of shelled corn up to 20 million tons.

The time seems to have come to look differently as well on the cultivation for raising corn for silage, which every year occupies 16-17 million hectares. In most of the country's regions it is advisable to grow it according to the same technology as for grain, without planting more densely, which will afford the possibility of obtaining ears not only of milky-wax, but also of wax maturity, of increasing the yield of dry matter, and of improving the quality and nutritional value of the feed. I would like to call attention to two circumstances in this connection: there is a need to create more rapidly new early and medium-early corn hybrids and reproduce those that exist and to make the transition everywhere to planting waterproofed and coated (gidrofobizirovannyye and inkrustovannyye) seed. The problem of waterproofing seed has been under discussion for many years, but science has not given a clear-cut and authoritative opinion on this question. Some argue that waterproofing helps to increase the yield of corn, others deny this persistently. Many years of experience of the "Krasnaya Zarya" Sovkhoz in Stupinskiy Rayon of Moscow Oblast convincingly indicates the high effectiveness of waterproofing. Even in the past year, which was a difficult one with respect to weather conditions, the average yield there was 460 quintals of corn with ears of milky-wax maturity on 740 hectares.

Extensive production experiments conducted in Krasnodar Kray and Rostov, Nikolayev and certain other oblasts shows that coating (inkrustatsiya) of the seed is capable of increasing the yield not only of corn, but also of rice, sunflower seed, soybeans and millet. In 1982 seed of this kind was sown in the country on about 1 million hectares, and this year almost 4 million hectares. Waterproofing and coating of seed offer the fullest benefit only in combination with a good organic manuring of the soil, adequate application of manufactured fertilizers, and timely and quality cultivation of the crops. As measures are taken to expand the planting of waterproofed and coated seed, concern must be paid to increasing the general level of cropping practice.

The crop balance on the area planted to annual grasses also is in need of substantial improvement. Their relative share in the plantings of feed crops is 26 percent, which cannot be considered optimal. Within the structure of annual grasses there is an unjustifiably high share of pure plantings of barley, oats, rye and wheat (65-67 percent), while annual grasses that are highly valuable as feed--vetch, vetch mixtures, maple peas, lupine and serratella--occupy only 23-25 percent. Consequently, here again there is a need to straighten things out.

Little attention is being paid to growing root crops for animal feed. Substantial area is allocated to them. Mangel wurzel alone annually occupies

about 2 million hectares, but the average yield of root crops has hardly exceeded 200 quintals per hectare for a number of years, whereas the progressive farms regularly harvest 800-1,000 quintals per hectare.

It is important to revise the present crop balance of feed crops on irrigated land, where feed production is guaranteed. Feed crops occupy 16.5 million hectares of improved land. Many kolkhozes and sovkhozes, rayons and oblasts are raising high yields on this land year after year. On the farms of UzSSR it has become the normal thing to harvest an average of 70 quintals of shelled corn per hectare and 120-135 quintals per hectare of alfalfa hay on irrigated fields. On the "Kommunist" Sovkhoz in Kherson Oblast they are averaging 105 quintals of shelled corn per hectare. The Kolkhoz imeni Michurin, where they harvest 1,000 quintals of root crops for feed and 760 quintals of green mass of perennial grasses per hectare on irrigated land, has made a reputation for its excellent yields. But on the whole the huge potential for increasing the production of feed on drained and irrigated land is being utilized unsatisfactorily at present. In 1982 only about 40 billion fodder units, or an average of 27 quintals per hectare, were harvested on land which had undergone capital improvement. This is between one-half and one-third of what we can and should produce. If the yield of feed crops were raised to 60 quintals per hectare, which is quite realistic, we would every year be able to harvest more than 100 billion fodder units from that land. Why is the drained and irrigated land being used at half capacity? First of all because in many republics and oblasts it is planted to low-yield feed crops; the necessary equipment and complete doses of manufactured fertilizer are not allocated everywhere; little organic fertilizer is applied, and acid soils in drained tracts are not limed at the right time or in the proper way. All of these shortcomings need to be corrected in the very near future.

Land which has been irrigated and drained is a good basis for programmed production of feed. The experience has been built up. In Crimean, Kherson and Odessa Oblasts, in the Northern Caucasus and in the Volga Region hundreds of brigades and links are working under programs to obtain high yields on irrigated land. But their example is not becoming widely disseminated. The time seems to have come to pass from words, from the publication of articles and books about programming, to deeds. Physical and technical resources which the farms possess make it possible for them to apply themselves much better, above all on irrigated tracts.

Agricultural agencies must allocate manufactured fertilizers, chemicals for plant pest and disease control, tractors, agricultural machines, and motor transport to kolkhozes and sovkhozes for improved land on an earmarked basis in accordance with programs and flowcharts, as envisaged by the Food Program.

Imparting greater stability to the production of feed depends to a considerable degree on skillful use of local rainfall. Work is being done in this direction in the south of the Ukraine, in the Northern Caucasus, in the Volga Region and in Kazakhstan, where many ponds, reservoirs and pumping stations used for regular irrigation have been built. With the help of "small-scale irrigation" kolkhozes and sovkhozes are obtaining 100 quintals or more of shelled corn per hectare, 80-90 quintals of alfalfa hay, and 400-500 quintals per hectare of silage.



In the country's steppe and forest-steppe regions liman irrigation has an important role to play in building reliable feed resources. In 1982 the farms of KaSSR applied it on an area of 600,000 hectares, those of RSFSR on 240,000 hectares. Many of them harvested 20-30 quintals of high-quality hay per hectare, whereas the yield on natural hay meadows without irrigation did not exceed 1.5-2 quintals per hectare. Experience shows that the outlays for "small-scale irrigation" are far lower than for construction of major engineering systems, and they show a quick return in the form of additional output. It is an urgent task to apply all the resources from the local runoff to obtaining nutritious feed.

Improved land is our gold treasury. Farm managers and specialists and agricultural agencies must bear direct responsibility for its effective use and for obtaining guaranteed stable yields on it.

It is a large and very crucial problem to increase the yield of natural forage land. Its area is huge. Kolkhozes and sovkhoses possess 35 million hectares of natural hay meadows and 287 million hectares of pastures. Large resources are being allocated to their radical and superficial improvement. Comprehensive projects are being carried on on a broad front to improve meadows and pastures, to organize reliable water supply for livestock in areas where livestock are driven to pasture in the summertime. In just the last three 5-year periods the area of improved natural land has increased by 14 million hectares and their area of drained pastures by 50 million hectares. But in many rayons and oblasts natural forage land is being used unwisely and ineffectively. That is why productivity remains low even on improved hay meadows and pastures, which now amount to about 20 million hectares: the farms are harvesting only 2-3 quintals of hay per hectare more than on unimproved land. There are oblasts which are harvesting less feed from such land.

A similar adverse tendency is characteristic of feed production on meadows and pastures in general. Whereas in the period 1966-1970 kolkhozes and sovkhoses obtained 330 fodder units per hectare, in the 1976-1980 period the figure was only 290. Feed production over that time dropped from 104 billion fodder units to 95 billion. That kind of situation cannot be justified by any objective causes whatsoever. The entire matter lies in the insufficient attention which agricultural agencies and farm managers and specialists have paid to meadows and pastures and in their incompetent, and indeed even unsophisticated, use.

What is more, a number of republics are regularly failing to fulfill the targets assigned for improvement of natural hay meadows and pastures. For instance, in the 9th Five-Year Plan the plan for radical improvement of natural land was fulfilled at a level of 70 percent, in the 10th at 65 percent, and in the first 2 years of the current 5-year period, at a level of only 57 percent. This work is being done particularly poorly on the farms of UzSSR, AzSSR, MSSR and the Nonchernozem Zone of RSFSR. The low quality of reclamation work is having an adverse effect on the productivity of natural hay meadows and pastures. The good experience they have had in Lithuania, Estonia and Belorussia with delivering land for use following capital improvement



after the planned yield has been achieved on it still has not received the necessary support and widespread dissemination.

That is why it is very important now to see that plans are unswervingly fulfilled for radical and superficial improvement of natural land and that their productivity is raised everywhere.

Considerably better use needs to be made of flooded water meadows, of which we have about 7 million hectares. Occupying 20 percent of the area of natural hayfields, they afford almost half of the total hay harvest. But flood meadows are not managed properly everywhere. In certain rayons and oblasts additional grass is not sown in good time, no fertilizer is applied, and in some places the floodlands grow up in brush. Adoption of effective measures to increase the effectiveness of developing flood meadows is an urgent task of the day.

We should speak in particular about cultivated pastures, whose area is decreasing unjustifiably. The widespread opinion that the pasturing of livestock has lost its importance now that animal husbandry is conducted on an industrial basis has had its impact on this. Accordingly many farm managers and specialists have begun to introduce year-round stabling of cattle without the requisite economic substantiation and without taking into account the soil and climatic conditions, which has resulted in a sharp increase in consumption of green mass of feed crops raised on plowland and of the concentrated feeds, which often are not grown on the farm, but are obtained from state resources.

Science has developed and practice has confirmed in all zones of the country technologies for raising dairy and beef cattle, dairy replacements and sheep on cultivated pastures, which makes it possible to increase the production of the products of animal husbandry, to decrease their production cost, and to reduce substantially the consumption of feed grain. Jointly with scientific institutions, agricultural agencies need to organize a vigorous effort to create cultivated pastures, especially irrigated pastures, and to increase the demand and responsibility for knowledgeable use of this land.

Far greater concern should be paid to pastures in the desert and semiarid areas, where they occupy more than 200 million hectares. It is becoming increasingly difficult to furnish adequate pasture feed for the animals grazing there (about 60 million sheep and goats), especially in the wintertime. The principal reason is the unsystematic use of the land, which has brought about a premature reduction in its feeding quality. Consequently, the development and performance of comprehensive measures to prevent the degradation of arid pastures ought to be at the center of attention of agricultural agencies, scientific organizations, and sovkhozes and kolkhozes located in desert and semiarid regions.

The Food Program calls for radical improvement of natural forage land on an area of 27-29 million hectares, to create irrigated meadows and pastures on 2.2 million hectares, and to bring water to 36-38 million hectares of pastures. Attributing as it does particular importance to the great effort which

is to be made, the USSR Council of Ministers has adopted a decree entitled "On Measures To Increase the Productivity of Natural Meadows and Pastures." It outlines major material-technical and organizational-economic measures whose performance will help to speed up intensification of meadow and pasture management. It is important even now, making maximum use of the growing capabilities of reclamation, chemicalization and mechanization, to do everything necessary to increase the production of coarse feeds on natural meadows and pastures by 1.5-2-fold.

Adoption of optimum crop sequences, improvement of the feed crop balance, and improvement of natural hayfields and pastures are unthinkable without properly organized selection and seedgrowing. In recent years quite a bit has been done in this most important area. The most recent equipment has been supplied to the 52 major selection centers and 18 selection complexes created. Three phytotrons and 48 selection hothouses have been put into service. More than 2,000 seed-cleaning mills have been put into operation on kolkhozes and sovkhoses. All of this has had a constructive effect toward improving selection work and has helped to speed up the raising of new varieties and hybrids and conversion of seedgrowing to an industrial basis. Over the period 1976-1982 selection centers gave to production 128 new varieties of perennial leguminous grasses, including 51 varieties of alfalfa, 28 of "meadow" (lugovoy) clover, 21 of sainfoin, and 9 of sweet clover; 121 varieties of perennial grass forage plants and 62 varieties of pulse crops. Most of them have been regionalized.

Nevertheless, there are still bottlenecks in selection. The varieties developed do not always meet the demands of production with respect to productivity and resistance to tests and diseases. Many of them are unsuitable in their biological characteristics for cultivation with industrial technologies. Highly intensive varieties of feed crops for irrigation farming are being created slowly. All of this is holding back the change to better varieties in the fields of kolkhozes and sovkhoses.

There are also quite a few oversights in the organization of seedgrowing. Although plans for production of the seed of perennial forage grasses are mainly being fulfilled with respect to their total volume, their assortment by species and varieties do not fully correspond to the requirements of feed production in fields and meadows. About 80 percent of the seed is meadow timothy, awnless brome grass and quackgrass, whereas the seed of Siberian wheatgrass, izeň and other grasses for the arid zone are hardly being raised at all. There is much to be done to improve the raising of seed of sorghum, Sudan grass, rape and root crops for feed. As in the past there is an acute shortage of the seed of leguminous grasses, a shortage which is in turn lengthening the period for use of low-yield grass stands, which accounts for the large shortfall of feed and deterioration of its quality.

The growing needs of animal husbandry for coarse and succulent feeds of high quality dictate the necessity of a reliable supply of the seeds of intensive grass varieties to farms, clover and alfalfa first of all. To be sure, in recent years we have managed to considerably increase the production of alfalfa seed. In 1978 the country produced 23,700 tons of its seed, and last

year 47,300 tons. Thus production of alfalfa seed doubled in 5 years. But at the present time the needs of kolkhozes and sovkhoses for this seed are not being met. By 1985 the gross harvest of alfalfa seed needs to be increased to 70,000 tons, and to 87,000 tons by 1990. It is evident that even in the future an effort will have to be made toward specialization and concentration of the production of alfalfa seed, as has been done in K1SSR. Even in the current year they plan to harvest 6,900 tons of alfalfa seed and to deliver 2,500 tons to the national fund. By 1985 the gross harvest will increase to 8,300 tons, and the delivery to 4,000 tons, and by 1990 a gross harvest of 9,000 and a delivery of 5,000 tons. In RSFSR the Chechen-Ingush ASSR must become the principal supplier of alfalfa seed; even this year its farms will sell more than 3,000 tons of it to the state (for the Nonchernozem Zone). Steps are being taken to organize the production of commercial alfalfa seed in Krasnodar and Stavropol Krays.

But certain republics are not adhering to state discipline, they are regularly failing to fulfill plans for delivery of alfalfa seed to the national stock. For instance, in the first 2 years of the present 5-year period UzSSR is short 1,233 tons, UkSSR more than 2,300 tons. Such cases are intolerable. We must extend the strictest supervision over the effort of every seed-growing farm to produce alfalfa seed and the seed of other perennial grasses, and tighten demands for their delivery to state resources. The USSR Ministry of Agriculture, the agriculture ministries of the union republics, VASKhNIL and scientific research institutions bear direct responsibility for improvement of selection, for organization of seedgrowing and for the quality of seed of feed crops.

A most important untapped potential for larger production, improved quality and reduced feed losses is introduction of progressive technologies for harvesting, preserving and storing feeds. Widespread practice demonstrates convincingly that wherever the new technologies have been adopted--multicut harvesting of grasses, drying hay with forced ventilation, baling, and use of chemical and bacterial preparations in the storage of silage and haylage, wherever good facilities have been built for storage, high-quality feeds are put by there every year. On the farms of Latvia, for example, more than 80 percent of the hay put up last year met the requirements of the first and second classes, which were also met by 90-94 percent of the haylage put up in Lithuania and Estonia.

But things have not been organized this way everywhere by any means. On many kolkhozes and sovkhoses forage crops are handled in the same old way. Even now three-fourths of all the hay is gathered in a multioperation technology (mowing, raking, turning, natural drying, stacking, and so on), although the losses of nutrients this entails go as high as 35-50 percent, while an effective method like baling is used in gathering only 10-12 million tons of hay, one-third as much as the physical and technical capabilities would allow. The volume of hay gathered by the method of forced ventilation is also small.

In certain rayons and oblasts the feed-harvesting period is stretched out intolerably, and there are flagrant departures from the proper technology for storing haylage and silage and for preparing grass meal and pellets. All of this has an adverse effect on their quality.

In 1981 and 1982 30 percent of the hay checked, 40 percent of the haylage and silage, and more than half of the artificially dried feed were classified as third grade or substandard. The amount of low-quality feed was especially high on the farms of Kirghizia, Tajikistan, and certain oblasts of RSFSR, the Ukraine and Belorussia. Such a situation cannot be tolerated. It is the duty of farm managers and specialists and agricultural agencies to be persistent in seeing that grasses are harvested in shorter periods, that progressive technologies are widely introduced, and that all the technological parameters are unswervingly achieved in the putting by of hay, whose volume of production must be brought up to 110-112 million tons in 1990.

Science and practice must fix particular attention on working out and adopting new technologies for laying in combined silages involving the use of corn with ears of milky-wax maturity, root crops grown from seed, and waste from plantgrowing. The experience of many farms confirms that this silage can be used successfully in feeding not only cattle, but also swine. Chemical preservation of green feed, which makes it possible to harvest the main crop of perennial grasses in unstable weather in good time and without losses, must become more widespread. And, of course, there is a need to substantially improve the quality of grass meal, to be resolute in eradicating the unsuitable practice which has become deep-seated in some places of feeding grass meal to animals in pure form instead of using it for its specific purpose as a concentrated protein-vitamin additive to mixed feeds immediately after preparation. This is an intolerable waste.

One of the most acute problems in development of feed resources is reduction of feed losses during storage. Kolkhozes and sovkhoses have hay storage facilities which are 12 percent adequate and root crop storage facilities which are 18 percent adequate. There is a shortage of concrete-lined capacities for putting by silage. The haylage towers built on farms have been fitted out with unreliable equipment, and that is why most of them are not being used. According to the figures of scientific institutions, about 20 million tons of silage and haylage and more than 6 million tons of hay are lost every year because of the shortage of storage facilities. Nevertheless, assignments for construction of feed storage facilities are every year being fulfilled at a level of only 30-35 percent. Major steps are required here; above all there is a need to enhance the responsibility of managers and specialists of farms and of rural construction organizations for fulfillment of planning targets for construction of feed storage facilities. Scientific research institutions and project planning organizations must intensify attention to the designing of storage facilities so as to take into account the country's climatic zones, the organization of industrial output of standardized construction components, and also a sharp drop in construction costs. Both our science and our partners in the agroindustrial complex have something to think about and to work on here.

The quality of feed and reduction of feed losses depend on the equipment kolkhozes and sovkhoses have for feed production. This branch is not very highly mechanized at present. Farmworkers hope that our machinebuilders will in the very near future substantially increase the delivery to agriculture of up-to-date and highly productive feed-harvesting and feed-processing machines



and complexes. Agricultural agencies must see that all feed-harvesting equipment available on kolkhozes and sovkhozes is operated efficiently and at maximum load.

It is a matter of paramount importance to increase the effectiveness of use of feed, especially concentrates. Until recently things were clearly out of line in the consumption of feed resources on many kolkhozes and sovkhozes. In the country as a whole the relative share of feed grain in the animal ration increased from 23 percent in 1965 to 35 percent in 1980, whereas consumption of roughage dropped from 20 to 18 percent, and consumption of succulent feeds from 18 to 14 percent. On the farms of Belorussia consumption of feed grain increased 2.1-fold over that period, in Georgia 2.3-fold, and in Azerbaijan 2.4-fold.

Wherever the increased consumption of concentrated feeds was related to changing the structure of production of animal husbandry--by increasing the production of eggs, poultry meat and pork on an industrial basis, this was justified. But in the seventies there was a sizable increase in the share of concentrates in the rations of ruminant animals, which cannot be regarded as correct by any means. As a result during the 9th and 10th 5-year periods inputs of feed grain increased 17 percent per quintal of milk and 35 percent per quintal of weight gain of cattle. No corresponding growth was achieved in meat and milk production.

Certain managers and specialists have displayed dependent attitudes. Instead of taking effective steps to increase the production of coarse and succulent feeds, they have regularly been sending in requests for additional allocation of concentrates from state resources for animal husbandry. This adverse trend was rightly censured by Comrade Yu. V. Andropov, general secretary of the CPSU Central Committee, in the conference of first secretaries of central committees of the communist parties of the union republics and of party kraykoms and obkoms on 18 April 1983.

Our scientific research institutions and personnel of main administrations for animal husbandry of union and republic ministries also bear quite a bit of the blame for the unjustifiably high consumption of feed grain. The recommendations of the All-Union Scientific Research Feed Institute and the All-Union Scientific Research Animal Husbandry Institute, published in a large printing in 1978, proposed that the farms raise and feed cattle on rations in which the share of concentrates was between 35 and 60 percent. Might we ask, what direction are we pointing practice in? After all, at such rations there will not be sufficient crops of any grain. In order to substantially correct the matter, there is a need to develop the capacities of the state mixed feed industry at a more rapid pace. After all, of the 140 million tons of concentrated feeds annually consumed to feed livestock on all categories of farms, mixed feeds comprise only 69 million tons, or 49 percent, while more than 70 million tons are fed to livestock in the form of a coarse grind which is not balanced in its feed components. In recent years production of mixed feeds has been properly organized in the system of agriculture. There are now more than 4,000 interfarm, kolkhoz and sovkhoz mixed feed mills in operation. They are paying proper attention to this in the Ukraine, in Krasnodar and



Stavropol Krays, and in Rostov, Voronezh, Orenburg, Kurgan, Kuybyshev and certain other oblasts.

The Food Program has outlined a sizable increase in production of mixed feeds, which means that there is a need to push construction of both state and farm mixed feed enterprises. Scientific institutions should think about ways of reducing the relative share of grain in mixed feeds by increasing nongrain additives. So that mixed feeds are more fully balanced with respect to protein, there is a need to produce more meat-bonemeal, to organize the production of starter and prestarter feeds and whole milk substitutes more rapidly and to make better use of the feed additives of the flour milling and food industry. We also calculate that the microbiological industry will substantially increase deliveries of feed protein, and the chemical industry its deliveries of feed phosphates.

Agricultural agencies and farm managers and specialists must pay far greater attention to preparing coarse and succulent feeds for feeding. On every kolhoz and sovkhoz there must be well-equipped feed-processing rooms and buildings and more extensive use should be made of the possibilities for production of carbamide concentrate and for collection of food waste. In short, everything needs to be done to bolster feed resources and to show everyday concern so that all feeds are fed to animals in well-prepared form. Only then will they pay a full return in the form of products. Speeding up intensification of feed production urgently necessitates that it undergo substantial organizational restructuring. There is a need to make feed production on kolkhozes and sovkhozes a specialized branch, to energetically apply in practice the new forms of organization of work and remuneration, above all the brigade contract. In many regions of the country feed production has been singled out as a specialized branch, there are permanent subdivisions for laying in and preparing feed which operate on the principles of a collective contract. They have been assigned to plowland, natural forage land, the necessary machines and equipment, planning targets are broken down to them, and their remuneration is established as a function of the quantity and quality of feed gathered. In all, these specialized detachments and links have been assigned 14.5 million hectares of feed crops on plowland, or 22 percent of the total area. The experience in their work indicates the high effectiveness of the final results.

Introduction of the collective contract is especially good in feed production on the farms of Belgorod, Saratov, Omsk, Chelyabinsk and Sverdlovsk Oblasts and in many rayons of Kirghizia. But in Yaroslavl, Vladimir, Vologda, Chita and a number of other oblasts this form of the organization of work, which, other conditions being equal, makes it possible to increase the yield of field crops and to prevent losses of feed in harvesting and processing and to substantially improve its quality, is still underestimated and is being adopted very slowly.

Agricultural agencies need to constantly bear in mind the question of making feed production a specialized branch and of widespread introduction of progressive forms of the organization of work and remuneration, the brigade contract above all.

We should say something in particular about the role of our agricultural science and its main headquarters--the All-Union Academy of Agricultural Science imeni V. I. Lenin--in performing the ever growing tasks of intensification of feed production outlined by the USSR Food Program.

More than once now we have noted the large and fruitful contribution our science has made to development of all branches of agriculture, including feed production. Thoroughly substantiated recommendations of scientists for radical improvement of hayfields and pastures and progressive technologies for raising feed crops, for preparing various types of feeds and mixed feeds, and for enriching them with protein additives are being widely applied in the practice of kolkhozes and sovkhoses. At the same time, in the present stage, when socialized animal husbandry is being converted in a planned way to an industrial basis, ever wider use is being made of intensive factors in the management of this important branch, and many problems in the production of feeds and in feeding animals have to be solved in a different way. This, of course, faces scientific research institutes with new problems and tasks.

Today it is extremely important to arm farm managers and specialists and agricultural agencies with scientific methods of a comprehensive approach to the development of feed resources on every kolkhoz and sovkhos and to help them correctly determine in what links they first need to assign the capital investments allocated so as to raise productivity and stability of feed production.

There are many unsolved problems. Among them we should put selection and seedgrowing in first place, as I see it. After all, it is quite obvious that if kolkhozes and sovkhoses do not have enough seed of intensive varieties of grasses and other feed crops, then all the efforts to intensify feed production will be ineffective. Production expects from our selection centers high-yield varieties of perennial grasses, above all alfalfa and clover, possessing the capacity to be mowed more than once, the ability to grow up rapidly when used in pasture, and to be winter-hardy, salt-tolerant and drought-resistant, to have a good yield of feed and feed mass, and to have a high protein content. At the same time, there is a need to intensify the raising of new varieties for specific conditions of peat-bog soils, floodlands, etc. There is an urgent need to solve on a scientific basis the problems of bringing wild species of feed plants under cultivation to increase the feeding ability of pastures in the arid zone and to organize seedgrowing.

A major problem is to speed up selection and improvement of the organization of seedgrowing of annual legumes: vetch, peas, serradella and especially immune varieties of lupine. Mass infection of lupine with fusarium wilt places an obligation on our selectionists to tackle more vigorously the creation of varieties which are resistant and insusceptible to this disease.

Especially great significance needs to be paid to the raising of highly effective varieties of mangel wurzel. In the very near future kolkhozes and sovkhoses need to obtain varieties of this most valuable feed crop with a content of 13-17 percent of dry matter in the roots and a yield of 800-1,300 quintals per hectare.

Maximum efforts need to be made to create early and moderately early corn hybrids, especially hybrids for silage. The percentage of dry matter must become the principal criterion as to the feed value of the plant mass of a hybrid. Production needs high-yield corn hybrids with a short growing season for silage cultivation and with a standard dry matter content in the green mass of at least 35 percent for the traditional southern growing zones and at least 25 percent for the northern regions.

Scientific research institutions need to concern themselves more actively with selection and application to production of such feed crops as sorghum, Sudan grass, rape, perko, and other crucifers. There is a wide field here for creative initiative of selectionists.

It is equally important to meet the needs of kolkhozes and sovkhoses for the seed of grasses with higher reproduction. Unfortunately, many experimental production farms of scientific research institutes and VUZ are not meeting their obligations and are not fulfilling the assignments given for raising and selling high-quality certified seed. They include the All-Union Scientific Research Institute [VNII] for Cereal Grains and Groats Crops, the VNII for Corn, the VNII for Soil Erosion, the Mironovskiy Scientific Research Institute for Wheat Selection and Seedgrowing, the VNII for Graingrowing, the Kuba Experimental Station of the Order of Lenin and Order of Friendship of Peoples All-Union Scientific Research Institute of Plantgrowing imeni N. I. Vavilov, the teaching farm of the Lvov Agricultural Institute, the Lithuanian Scientific Research Institute for Cropping, and many others.

Nonfulfillment of plans for the sale of pedigreed seed have quite often been an obstacle to rapid movement of new varieties and hybrids of feed crops to the fields of kolkhozes and sovkhoses. This lack of discipline has cost the state dearly and does not contribute to the prestige of science.

Animal husbandry now needs not just more feed, everyone knows that. It needs high-quality feed, full-valued feeds which are balanced with respect to all nutrients, especially protein, but in many oblasts, krays and republics the protein content per fodder unit does not exceed 90-95 grams, whereas standards call for it to be 105-110 grams. The shortage of protein in feeds consumed on kolkhozes and sovkhoses is 4.5-5 million tons a year. It is this shortage of feed protein that is the principal cause that is holding back the rise of the productivity of livestock and poultry and the drop in the production cost of the products of animal husbandry. There is accordingly a need to step up considerably scientific research on the protein problem and to conduct it along all lines.

Particular emphasis needs to be put on development of new energy-saving technologies for the preparation of industrial feed protein. Its use amounts to about 1 million tons per year, but the need of animal husbandry is 5.7 million tons. The Food Program calls for increasing the production of microbiological feed protein to 1.8 million tons in 1985. VASKhNIL, its regional branches and agricultural scientific research institutes should work in closer contact with the Main Administration of Microbiological Industry and scientific research institutions of the USSR Academy of Sciences. This is

the direction given us by the party's decision on development of the microbiological industry.

The proportional composition of rations fed to animals is also in need of radical revision, as already stated. Kolkhozes and sovkhoses need patterns of livestock feeding and rations in which it is possible to make maximum use of the feed crops which have the highest yield in their zone, the cheapest feeds. There is no doubt that physiologists, biochemists and other specialists must take part in scientific research to develop the optimum feeding patterns and rations and in thorough study of the metabolism of the animal organism, and in increasing the digestibility and assimilability of feeds, since this is a complicated interdisciplinary problem.

The creative energy of engineers and designers need to be directed toward creation of new and highly productive feed-harvesting and feed-processing machines, toward development of resource-saving technologies for the gathering, processing and storage of feeds, ensuring their high quality and preservation. This work evidently needs to be done in alliance with scientific and design institutions of industrial ministries and departments, which are our partners in the agroindustrial complex. The decree adopted by the CPSU Central Committee and USSR Council of Ministers entitled "On Measures To Raise Further the Technical Level and Quality of Machines and Equipment for Agriculture and To Improve Their Use and Increase Their Production and Deliveries in the 1983-1990 Period" provides a good foundation for strengthening the effectiveness and results of scientific thought in this direction.

In the context of scientific-technical progress it is extremely important to raise the role of scientific institutions in introduction of completed developments to agricultural practice. This must become a question of honor for every scientific research organization and every scientist. Passivity and inertia need to be eradicated with determination and every scientist must truly feel anxiety about the fate of his scientific offspring and help it to get adopted under the conditions of production.

The USSR State Committee for Science and Technology and also USSR Gosplan have adopted a Comprehensive Scientific-Technical Target Program for Feed Production in the Period 1981-1985. There is serious concern about progress in carrying it out. It seems that VASKhNIL and its presidium need to immediately take under consideration the work of the scientific institutions responsible for carrying it out and adopt effective measures so that all the assignments of the target program are performed on time.

A very great deal remains to be done. And this means that all of us--practitioners and scientists, must work at the height of our powers and with a high sense of responsibility so as to achieve straightforward organization and strict discipline in every section and in all units of scientific activity.

COPYRIGHT: Izdatel'stvo "Kolos", "Vestnik sel'skokhozyaystvennoy nauki", 1983

7045

CSO: 1824/111



## LIVESTOCK

### CONCERN FOR WINTER READINESS OF VOLGOGRAD OBLAST LIVESTOCK

Moscow IZVESTIYA in Russian 28 Oct 83 p 2

/Article by F. Seleznev: "Lessons of the Initial Days"/

/Text/ It turned out that many farms in Volgograd Oblast were unprepared for the winter.

The livestock wintering campaign always serves as a stern examination for the livestock breeders, kolkhoz and sovkhoz leaders and for all elements of the agroindustrial complex. The productivity and marketability of the farms are dependent to a large degree upon how well this work is organized.

This is why the party's central committee, the USSR Council of Ministers, the AUC TU and the Komsomol Central Committee considered it advisable to continue the socialist competition for the successful conduct of the livestock wintering program and for increasing the production and procurements of animal husbandry products during the 1983/1984 winter.

Recently the Presidium of the RSFSR Council of Ministers discussed the report delivered by the chairman of the Executive Committee of the Volgograd Soviet of People's Deputies Yu. Lomakin concerning the work of the oblast's soviet and economic organs in preparing the livestock for winter.

Based upon the report and the materials obtained from an inspection, the oblast's farmers and livestock breeders procured somewhat more coarse, succulent and concentrated feed and achieved improvements in their quality. Roughly 1.7 more quintals of feed units were procured per standard head than was the case last year. Ten-day and monthly schedules for feed consumption were prepared on a majority of the farms. Roughly 1,206 feed preparation shops and feed kitchens were prepared for operations and this is making it possible to issue the major portion of the feed to the animals in processed form.

In short, a fine base has been created that is making it possible to intensify the production and sale of all animal husbandry products. At the same time, over a period of 9 months the milk yield per cow on farms throughout the oblast decreased an average of 34 kilograms, a reduction took place in the gross production and sale of milk to the state and fewer livestock and poultry were sold for slaughtering purposes.



The quality of the products also leaves a great deal to be desired. Over the past three quarters, the losses in credited milk amounted to 12,000 tons. Approximately 63,000 tons were issued and classified as being of low-grade quality and 315 tons were returned to the farms.

It would seem that in such a situation the farm leaders and specialists and the oblast's soviet and agricultural organs would have undertaken additional measures aimed at making up for the losses, commencing the livestock wintering operations in an organized manner and utilizing the increasing amounts of feed resources in a more efficient manner.

But, as revealed during a discussion held in the Presidium of the RSFSR Council of Ministers, this did not happen. First of all, serious concern is being evidenced over the fact that as yet the staffing of the farms with personnel has not been completed. The wintering operations have commenced and some farms are still lacking sufficient milkmaids, cow tenders and shepherds.

Nothing can justify the fact that on many farms, under the pretext of achieving an economy in the use of feed, the conversion of the livestock over to indoor maintenance and supplying them with complete winter rations have been dragged out. The livestock are being held in summer camps and on poor pastures. As was to be expected, this has led to a loss in milk productivity and premature steaming of the cows. At the Kolkhoz imeni Krupskaya and the Pugachevskiy Sovkhoz in Kotelnikovskiy Rayon, for example, the average milk yield per cow has fallen at the present time to 3.6-3.8 kilograms and at the Tsimlyanskiy Sovkhoz and Krasnoarmeyets Kolkhoz in Oktyabr'skiy Rayon -- to only 2.8-3.5 kilograms daily.

And what is the meaning of a sharp reduction in the average milk yields at the beginning of wintering? It constitutes an irrevocable loss of many thousands of tons of products. Moreover, the restoration of milk productivity in cows requires a much greater expenditure of feed and just as important -- of time.

Not everything is proceeding well with regard to the utilization of the feed preparation shops and feed kitchens. They are inactive on many farms.

During the wintering period, the Volgograd livestock breeders and their leaders must solve the task of herd reproduction in a more responsible manner. Unfortunately, the degree of barrenness in cows is high throughout the oblast. Only 70-75 calves are being obtained annually from every 100 cows here. And during 9 months of this year -- only 65. This is one of the lowest indicators among the oblasts and autonomous republics in the Volga region.

Meanwhile, there are farms in the oblast where a calf is being obtained annually from each cow. Relying upon the experience of these farms, upon a strong feed base and upon the increasing expertise of the livestock breeders, the kolkhozes and sovkhozes in Volgograd Oblast have a real opportunity available for thoroughly correcting the situation with regard to reproduction of the livestock, raising considerably the productivity and marketability of the farms and for creating a fine stockpile for developing the branch in the immediate future.

It is apparent that the wintering of livestock on farms in Volgograd Oblast has not commenced in the best possible manner. The oblast's leaders were informed directly regarding this fact during the Presidium of the RSFSR Council of Ministers. The principal means for eliminating the mentioned and other shortcomings were defined.

Unfortunately, similar shortcomings are to be found in some other oblasts, krais and autonomous republics of the Russian Federation. To eliminate them rapidly, during the first days of the wintering campaign, is the primary obligation of the soviet and agricultural organs, the farm leaders and specialists and all farm workers and their partners in the agroindustrial complex.

7026

CSO: 1824/115

## LIVESTOCK

### DEVELOPMENT OF LIVESTOCK PRODUCTION IN CEMA COUNTRIES

Moscow EKONOMICHESKOYE SOTRUDNICHESTVO STRAN-CHLENOV SEV in Russian No 10,  
Oct 83 pp 26-29

[Article by Zhamtsyn Batzorig, Kazimezh Kvetsen', and Iyozhef Leymeter,  
CEMA [Council for Mutual Economic Aid] Secretariat: "The Production of Basic  
Livestock Products in CEMA Member Countries"]

[Text] In supplying the population with food products at the contemporary level an important role is played by the use of animal protein and for this reason an important goal for agriculture in the CEMA countries is increasing agricultural production output of meat, milk and eggs.

The basis for the proposed analysis is the last decade because it was in the beginning of the 1970's that in addition to the qualitative growth of agricultural production output most of our countries began to pay more attention to the qualitative indicators of agricultural production.

Within the structure of agricultural gross production from 1970 to 1980 in all CEMA countries the proportion of livestock raising increased by 1-13 percent, with the exception of the MNR [Mongolian People's Republic], where agriculture is developing more rapidly since agricultural production still occupies a very insignificant place there, and of the VNR [Hungarian People's Republic], where agricultural production output has increased by 0.2 percent as a result of the implementation of the Program on Grain Production.

In 1970-1980 gross agricultural production increased by 15 percent, including farming production output--by 8 percent, and livestock raising production output--by 25 percent. In the early 1960's in most CEMA countries farming production comprised 50-60 percent of gross agricultural production. The population's need for animal products continues to increase with the rise in the standard of living of our peoples. Moreover, the growth pace for the production of basic agricultural products in CEMA countries surpassed population growth and as a result their consumption per capita increased.

This situation required significant capital investments. The volume of capital investments into agriculture and the timber industry in 1980 as compared to 1970 comprised 149 percent in the NRB [People's Republic of Bulgaria], 108 percent in the VNR, 111 percent in the GDR [German Democratic

Republic], 285 percent in the Republic of Cuba, 141 percent in the MNR, 186 percent in the PNR [Polish People's Republic], 203 percent in the SRR [Socialist Republic of Romania], 188 percent in the USSR and 170 percent in the CzSSR [Czechoslovakian SSR]. The energy capacity of agriculture has increased as have supplies of machines, equipment, mineral fertilizer, pesticides, biochemical supplements for feeds and so forth. At the same time, production concentration continued, the number of enterprises decreased and their farming lands and other forms of fixed capital increased.

The higher degree of concentration in the area of livestock farming rightfully resulted in a more thorough specialization within this branch, which provided the possibility of elaborating and introducing industrial production methods.

The new conditions placed serious tasks before breeders, biologists, machine operators, economists and other specialists--new ways had to be found to utilize the rich biological potential of CEMA countries as reflected in the variety of breeds of farm animals and poultry, to decrease feed consumption, to raise production quality and to improve and lighten work in agriculture.

The CEMA Standing Committee on Cooperation in Agriculture and its working organs are working out and implementing measures that will facilitate a solution to this task. Of great significance in increasing production output in livestock raising is a multi-faceted agreement concluded on the basis of DTsPS [Expansion unknown] with regard to economic and scientific-technical cooperation in the areas of livestock raising, veterinary science, mechanization and farming.

#### Meat Production

The production of meat and lard in slaughter weight in CEMA countries as a whole (Table 1) increased from 19.5 million tons in 1970 to 26 million tons in 1980, or by 33 percent. The most rapid growth was observed in the SRR--by 99 percent, the NRB--by 64 percent, the VNR--by 50 percent and the PNR--by 44 percent. It was achieved in these countries (with the exception of the VNR) basically by rapidly increasing the herd of hogs and poultry, but intensive factors were utilized as well. The herd of cattle in CEMA countries as a whole increased by 18 percent, of hogs--by 30, of sheep--by 5 and of poultry--by 45 percent. At the same time the herd of cows increased by 7.5 percent, and that of sows--by 18 percent. This means that more progeny began to be obtained from the mother herd and that losses during the raising of young decreased.

As a result of the changes that occurred in the herd the proportion of beef in total meat production decreased, the proportion of pork produced remained unchanged and the proportion of poultry meat comprised about 15 percent in 1980 as compared with 9.4 percent in 1970 (Table 2).

In order to more fully satisfy the needs of the populations of CEMA countries for food it is essential to increase meat production as a whole. This can be done most rapidly and economically by developing poultry raising (it would be expedient to increase the proportion of poultry meat to 20 percent). In

Table 1

Production of Meat and Lard in Slaughter Weight (thousands of tons)

	1970	1975	1980	1981	1982
CEMA countries (total) <sup>1</sup>	19,489	24,902	26,450	26,204	....
Including:					
Bulgaria	476	657	781	794	832
Hungary	1,040	1,421	1,565	1,578	1,647
Vietnam		...	496	562	633
GDR	1,347	1,837	1,899	1,997	1,835
Mongolia	180	234	227	236	233
Poland	2,182	3,062	3,141	2,526	2,560
Romania	888	1,373	1,769	1,786	....
USSR	12,278	14,968	15,073	15,239	15,237
Czechoslovakia	1,098	1,349	1,499	1,526	1,412

<sup>1</sup>Excluding the Republic of Cuba

Table 2

Proportion of Types of Meats in Total Production in 1980 (percent)

Country	Beef	Pork	Poultry Meat	Meat from sheep and goats	Other types
Bulgaria	19.4	45.1	20.9	13.8	0.8
Hungary	12.7	63.4	22.5	1.0	2.4
GDR	22.7	67.7	7.6	1.0	0.1
Mongolia	31.3	0.4	--	51.0	17.3
Poland	26.9	56.3	14.0	1.0	3.8
Romania	17.2	55.2	23.0	4.4	0.2
USSR	44.5	34.0	14.0	5.6	1.9
Czechoslovakia	26.4	60.8	10.4	1.4	1.0



control-testing stations for examining poultry breeds used for meat purposes broilers have already been found that reach 1.6 kilograms of live weight in 49 days with an expenditure of 2.1-2.2 kilograms of feed per kilogram of weight gain, being in no way inferior in this respect to the best lines of poultry from Dutch and English firms. However, we must consider the high degree of capital intensiveness of poultry raising and the great demand for concentrated feeds, which hinder the rapid development of this branch.

By looking at the production structure of various types of meats we can judge about the existing consumer traditions regarding this product in various countries. In Hungary, the GDR, Poland, Romania and Bulgaria pork is preferred, in the USSR more beef is consumed, and in Mongolia--more mutton. In our countries poultry meat occupies only a secondary or tertiary position on the dining table.

Despite some of the differences in national structures of meat consumption we must increase the production of all types of meat. The basic reserve for increasing the production of pork in CEMA countries is the growth in the herd of pigs and a more complete utilization of the effects of heterosis in breeding.

Increasing the weight of livestock that is submitted for processing remains a reserve for increasing beef production. At the present time it comprises 350-400 kilograms (in the VNR--500-600 kilograms and in the CzSSR--470 kilograms).

The quality of beef produced in the VNR and the CzSSR speaks of the fact that an increase in delivery weight of 100 kilograms is totally realistic. Calculations show that without a considerable increase in capital investments for the building of livestock facilities and simply by securing the essential feed base and by increasing slaughter weight it is possible to increase beef production to a level that will exceed the current level by about 800,000 tons per year.

Important reserves for the further planned increase in meat production in the CEMA countries include the utilization of factors of intensity such as improving fertility, increasing weight gain, decreasing epidemics and rejects by strengthening breeding work and the veterinary protection of animals and by more effectively utilizing the gene funds for agricultural animals available in CEMA countries. Of great importance is the utilization of possibilities presented by multi-faceted agreements concerning specialization and cooperation in agricultural production output and concerning scientific-technical cooperation as well as the positive experience of fraternal nations gathered in the areas of feeding, the mechanization of production processes, production technology and so forth.

#### Milk Production

In providing nourishment for man milk and dairy products occupy one of the most important places--they provide 25 percent of animal protein and about 20-30 percent of food oil.

Table 3  
Milk Production (thousands of tons)

	1970	1975	1980	1981	1982
CEMA countries (total) <sup>1</sup>	117,720	129,259	132,030	128,167	.....
Including:					
Bulgaria	1,632	1,803	2,217	2,296	2,411
Hungary	1,726	1,835	2,557	2,693	2,733
GDR	6,867	7,458	7,297	7,195	6,821
Republic of Cuba <sup>2</sup>	380	591	889	918	926
Mongolia	221	230	226	228	231
Poland	14,988	16,395	16,499	15,342	15,203
Romania	3,912	4,581	5,480	5,049	.....
USSR	83,016	90,804	90,899	88,513	90,056
Czechoslovakia	4,978	5,562	5,966	5,973	5,986
<sup>1</sup> Without the SRV.					
<sup>2</sup> State sector.					

Table 4  
Production of Large Eggs (millions of eggs)

	1970	1975	1980	1981	1982
CEMA countries (total) <sup>1</sup>	63,328	87,235	101,778	105,090	.....
Including:					
Bulgaria	1,582	1,817	2,405	2,396	2,467
Hungary	3,280	4,001	4,385	4,394	4,404
GDR	4,442	5,047	5,514	5,670	5,696
Republic of Cuba <sup>2</sup>	1,456	1,851	2,327	2,360	2,247
Mongolia	6	8	21	19	19
Poland	6,941	8,013	8,902	8,816	7,602
Romania	3,199	4,973	6,442	6,667	.....
USSR	40,145	57,026	66,882	69,800	71,199
Czechoslovakia	3,733	4,499	4,900	4,968	5,030
<sup>1</sup> Without the SRV.					
<sup>2</sup> State sector.					

In 1970 gross milk production in CEMA countries comprised over 117 million tons, and in 1980--132 million tons (i.e. growth of 12 percent). The most rapid growth pace during this period occurred in the Republic of Cuba--134 percent, in the VNR--48 percent, in the SRR--40 percent and in the NRB--36 percent (Table 3).

Milk production increased as a result of the increase in the herd as well as of increasing milk yield. The herd of cows in CEMA countries increased from 54.1 million in 1970 to 58.3 million in 1980, or by 7.5 percent. This increase occurred primarily in the USSR (9 percent) and the SRR (17 percent). A small amount of growth was noted in the NRB, MNR and CzSSR and in the VNR this indicator did not change. In the GDR and PNR in 1980 the herd of cows was somewhat smaller than in 1970.

The greatest increase in milk production during this period was observed in the VNR, where the average milk yield per cow in 1970 was only 2,252 kilograms but where by 1980 it reached 3,704 kilograms, a 64 percent growth. There was a significant growth in the productivity of cows in the CzSSR--by 24 percent, the SRR--22 and the NRB--21 percent. At the same time in a number of countries this indicator did not change. For example, in the GDR for the past 10 years average milk yield has been 3,400 kilograms.

Per capita milk production during the last 10 years increased in the VNR from 167 to 239 kilograms, or by 43 percent, and its consumption increased from 110 to 166 kilograms, or by 51 percent; in the NRB--from 192 to 250 kilograms, or by 30 percent, and from 161 to 234 kilograms or by 45 percent respectively. In countries such as the GDR, PNR, USSR and CzSSR where both production and traditional consumption of this product per capita (200-250 kilograms) are at a higher level, these indicators have changed insignificantly. This level of consumption has also been observed in developed capitalist countries.

Cooperation among CEMA countries in this area is directed at expanding the utilization of highly productive lines and breeds of cattle available in our countries. Significant success can be achieved by utilizing positive experience gathered in our countries with regard to breeding animals, to improving the technology of milk production and to securing the essential feed base.

#### Production of Chicken Eggs

Chicken eggs are an important nutritional product containing amino acids and minerals. The production of chicken eggs in CEMA countries as a whole increased from 63 billion eggs in 1970 to 102 billion in 1980, or by 61 percent (Table 4). The most rapid growth pace in egg production occurred in the SRR--growth by a factor of 2 and in the USSR--by a factor of 1.7. Since 1980 these countries have been maintaining a rapid growth pace and during the last 2 years egg production has been increased by 7 and 6.5 percent respectively.

Egg production is increasing sufficiently rapidly in the other CEMA countries--in Cuba--by a factor of 1.6, the NRB--1.5 and the VNR and CzSSR--1.3.

The consumption of chicken eggs is increasing from year to year. In CEMA countries (with the exception of the SRV and MNR, where production had just begun to be assimilated during this period) the consumption of this product reached a level of 200-300 eggs per capita per year and increased by about 25-30 percent in the last decade. Of course there are variables in different countries. For example, during this period the consumption of eggs increased by 66 percent in the NRB, by 50 percent in the USSR and only by 15-30 percent in other CEMA countries.

Data from the last 2 years demonstrates that at the present time in most CEMA countries the increase in egg consumption has levelled off. Further growth can probably be expected only with the expansion of production and consumption of semi-processed products and prepared dishes containing eggs. This is demonstrated also by the experience of developed capitalist countries, in which the stabilization of consumption is proceeding on this level.

If we compare the pace of growth of production and consumption of chicken eggs per capita, we will see that in our countries production is always ahead of consumption.

The increase in egg production occurred primarily by means of increasing the number of egg-laying hens from 908 million in 1970 to 1.315 million in 1980, or by 44 percent. At the same time in the state agricultural enterprises of most CEMA countries each hen produced only 3-4 percent more eggs than 10 years ago. It was only in the CzSSR, the GDR and the USSR that there was a substantial increase in the productivity of hens (32, 20 and 15 percent respectively). The most significant results were achieved in the CzSSR, where since 1975 a single hen has been yielding 250-255 eggs. Such results have also been achieved on the state farms of the SRR during the last two years, with yield exceeding 250 eggs per hen.

The possibilities for increasing egg yield per hen are quite significant. For several years now controlled tests of egg-producing lines of hens have produced good results--in a 300 day period individual hens yielded 247-256 eggs with an average weight of 61.3-62.3 grams and an average feed consumption of 2.67-2.82 kilograms per kilogram of eggs.

At the present time there is a serious base for strengthening and expanding cooperation among CEMA countries in this realm, especially as regards questions of cooperation in breeding work and production specialization of parent lines of pedigree fowl of various types and different productivity directions.

The production of animal products is closely related to the development of a modern industrial technology for maintaining animals. This undoubtedly produced positive results in those countries where improved genetic characteristics of animals were accompanied by the capability to meet their biological and ecological needs with a consideration of production economy. In cooperation among CEMA countries special attention in this area will be focused on the problems of improving production technology in livestock raising, the methods of labor organization in livestock-raising complexes,

and on raising the effectiveness of the mutual use of genetic resources of breeds of agricultural animals.

Expanded cooperation acquires significance with regard to supplying a feed base. Its development will be a dependable basis for increasing the output of all animal products while at the same time improving their quality.

All CEMA countries are constantly concerned with improving the supply of foodstuffs, including animal products, for the population. National foodstuffs programs are being implemented, and the extensive, multi-faceted cooperation between CEMA countries in this area will facilitate the realization of this goal.

COPYRIGHT: Sovet Ekonomicheskoy Vzaimopomoshchi Sekretariat Moskva, 1983.

8228

CSO: 1824/101



## LIVESTOCK

### SHORTCOMINGS IN BELORUSSIAN LIVESTOCK BREEDING OPERATIONS POINTED OUT

Minsk SEL'SKAYA GAZETA in Russian 15 Nov 83 p 1

[Article: "Perfecting Breeding Practices"]

[Text] Livestock breeding is the most important branch of agriculture in our republic. Its accelerated development is dictated by the need for significant improvement in providing the population with milk, meat and other products in the interests of strengthening the economic system of kolkhozes and sovkhoses, since livestock breeding receives a large share of actual commodity production.

The purposeful work of putting into practice the decisions of the May (1982), November (1982) and June (1983) Plenums of the CPSU Central Committee had positive results on the operation of the livestock breeding industry. Already last year a noticeable change began to appear. There are rather significant improvements in the production of milk and meat. All oblasts have the opportunity to timely settle their bills with the state upon selling livestock products, some rayons are already close to fulfilling these plans, while the leading farms have already reported on their fulfilled plans and now are selling products above the established quotas.

The greatest successes are attained where a sure course is followed for intensification of the livestock sector, where strengthening fodder resources is carried out by work directed toward set goals, where breeding practices are being perfected, where the breeding and productive qualities of livestock are being further developed, and where the organization for the reproduction of herds is being improved.

An example of this big and important effort is shown by the kolkhozes and sovkhoses of Volkovysskiy Rayon. Along with strengthening the fodder resources on local farms, organizations and technologies are devoting a great deal of attention to herd reproduction. Now kolkhozes and sovkhoses in the rayon have 39 specialized farms where almost 10,000 heifers of all ages are to be found, which comprises 82 percent of those designated for reproduction. Such a contingent of younger animals allows a yearly replacement of the dairy herd by 24-25 percent by young cows which are checked for productivity and suitability for machine milking.

The purposeful breeding work and skillful organization of herd reproduction made it possible for the rayon to raise milk productivity and last year each cow provided on the average 226 kilograms more milk than the previous year. Nowadays all the farms are surpassing the established rate for milking. On the average from each cow during the 10 month period were obtained over 2,500 kilograms, which is greater than for the corresponding period last year by 202 kilograms. The average daily weight gain by cattle being raised and fattened came to 650 grams, of which 500 grams were for growth. It should be noted that Volkovysskiy Rayon holds first place in the republic for the increase of milk per cow and the average daily weight gain of growing cattle.

Unfortunately, the importance and significance of the breeding operation and the organization of herd reproduction for raising the productivity of cattle is not understood everywhere. Many farms select too few calves for breeding and do not create the necessary conditions for their growth as directed. In the kolkhozes and sovkhoses of Khotimskiy, Krupskiy, Dubrovenskiy, Krasnopol'skiy and other rayons, on the average, 100 cows produce 13-14 calves. Such a level of selection of calves for breeding does not allow for increased, nor even for normal, reproduction.

As a result of the low level of replacing dairy cattle in kolkhozes and sovkhoses, there is an increase each year of old, sick and low-producing cows which hold down the growth of productivity and the production of milk and meat in the republic. One of the reasons for the low level of replacing dairy cattle is poor breeding and as a consequence the premature elimination of breeding calves who are then slaughtered at the expense of herd reproduction.

As a result of the insufficient inclusion of young cows into the dairy herd and the worsening of conditions for raising younger animals for breeding, the quality has been lowered. For this reason the period for raising cows has lengthened by 6-7 months. Their cost is rising and productivity is decreasing.

For a fundamental reorganization of the system's conditions of selecting and raising younger animals for breeding, a network of specialized farms has been created throughout the republic. However, in the majority of rayons there has been no progress beyond the organization and the construction of expensive cattle sheds, nor have the appropriate conditions for feeding and raising younger animals for breeding been created.

The level for replacing the basic litter in pig raising is also low. In a majority of rayons, each sow farrows one little pig for breeding, while in Krichevskiy, Gantsevichskiy, Slavgorodskiy and several other rayons, reproduction is lower: 0.7-0.5.

Substantial shortcomings in reproduction of female herds reflect negatively on the further growth of productivity of national livestock breeding and to a considerable extent reduce its economic effectiveness.

The improvement of breeding work, the mastering of leading technology, the organization of reproduction--these are the demands of the day, the urgent task of raising the effectiveness of the livestock breeding industry. While improving the work of specialized farms according to dictated breeding of heifers, it is very important to make sure that in all rayon kolkhozes and sovkhoses not having specialized farms there be organized farms which raise heifers for breeding according to the principles of intraorganizational specialization. In order to check the young cows for their productivity and for increasing the safety and birth of offspring, it is necessary to create at all farms permanent shops (groups of dry cows), departments for giving birth, sectional dispensaries, supervised cow-sheds or supervised groups.

The training and re-training of workers for artificial insemination and the creation of reproduction teams should be the daily work of leaders and specialists of kolkhozes and sovkhoses zootechnical service in the rayon.

In the development of livestock breeding, oblast and rayon agro-industrial associations play a great role. They are called upon to analyze more deeply the state of affairs at farms, to see the perspective of developing industries, to help activate breeding work locally, to help with the organization of herd reproduction, and to furnish livestock breeders with all the new and advanced information about these matters.

A more complete utilization of the breeding potential of farms is one of the basic conditions of raising the effectiveness of livestock breeding and the successful solution of the Food Program.

12484

CSO: 1824/110

## LIVESTOCK

### SCIENCE APPLIED TO LIVESTOCK PRODUCTION IN LITHUANIA

Vilnius KOMMUNIST in Russian No 9, Sep 83 pp 32-37

/Article by Z. Vagonis, professor, director of the Lithuanian Scientific Research Institute of Animal Husbandry: "Intensification of Animal Husbandry and the Food Program"

/Text/ The realization of the Food Program depends to a significant degree on the rates of the further intensification of animal husbandry sectors, the introduction of the achievements of science, technology and advanced experience into practice, a fundamental improvement in the organization of labor and discipline, the strictest saving of material and power resources and the minimization of the losses of output on its path from the field to the store counter.

The achievements in the republic's animal husbandry are significant. At present the republic's annual per-capita production of meat is 3.1 times, of milk, 1.8 times and of eggs, 5.2 times higher than during the last few years of the bourgeois regime. In the per-capita production of basic livestock products the republic occupies one of the first places in the country and outstrips many capitalist countries of Europe, which are engaged in agriculture intensively. The average annual per-capita production of meat is 141 kg, of milk, 829 kg and of eggs, 278. However, although gross livestock output now comprises about 85 percent of the total agricultural output, the constantly growing needs of the population for milk, meat and eggs and of industry, for raw materials are not yet met fully. Therefore, the 26th CPSU Congress and the 18th Congress of the Communist Party of Lithuania put forward big tasks in the field of animal husbandry. Now it is very important to mobilize the joint efforts of science and production for their fulfillment.

When transferring animal husbandry to an industrial basis, it is especially important to further develop overall scientific investigations, to devise and improve systems, subsystems, technologies and models maximally approximating the specific conditions and corresponding to the biological needs of animals and to speed up the introduction of the achievements of science and advanced experience into production. The organization of the performance of overall investigations by the forces of scientific institutions, like the introduction of the achievements of science and advanced experience into production, is still a very weak link. Essentially, the path from the development to the introduction of end results with due regard for the responsibility of organizations, institutions, farms and individual workers in each chain of animal

husbandry has not been determined quite clearly. At the same time, sometimes there is a shortage of funds and other material conditions for introduction. The introduction of the achievements of science and technology, as well as of advanced experience, should become an integral part of the activity of every manager and specialist and all this should be included in the evaluation of the end results of every farm and of animal husbandry enterprises and complexes.

In the republic there are many rayons, in which special attention is paid to the introduction of the achievements of science and advanced experience in the field of animal husbandry. Among them Kapsukskiy, Kaunasskiy, Panevezhskiy, Pasvalskiy, Radvilishkiskiy, Skuodasskiy, Lazdiyskiy, Vilkavishkiskiy and Anikshchyayskiy Rayons should be noted. For example, the so-called Baysogal technology of cryopreservation of seeds, as well as the system of feeding and keeping sires, developed at our institute and approved by the scientific and technical council of the USSR Ministry of Agriculture, is being introduced at the Kapsukas Interrayon Pedigree Stock Enterprise for the 7th year now. The annual economic benefit from the increase in the procurement of seeds alone now amounts to 400,000 rubles and the yield of calves in the service zone of the pedigree stock enterprise has increased by 3.5 percent. On farms in Kapsukskiy Rayon it is possible to learn shop milk production and the production of high-grade moist feed mixtures prepared on KORKO-15 for cattle. This rayon was the initiator of the production of mixed silage for hog feeding, which has now found wide application in many farms in the republic. The two-phase technology of hog raising with the use of 91 universal machine tools proposed by Yu. Shveystis, which has been developed at our institute, is ever more extensively introduced on farms in Pasvalskiy, Radvilishkiskiy and other rayons. In 1982 the volume of introduction encompassed about 172,000 head. This technology, when hybrid hogs are fattened up to 100 kg of live weight, makes it possible to obtain, on the average, 29 rubles of net income per head. The Merkis and Verishkyay experimental farms of our institute, the Anulen Poultry Sovkhoz in Telshyayskiy Rayon, the Atzhalinas Kolkhoz in Panevezhskiy Rayon and others can serve as good examples with regard to the introduction of chemical feed preservation. In many rayons in the republic we together with the specialists of the Lithuanian SSR Ministry of Agriculture, with other scientific institutions and with breeder-zootechnicians of farms develop highly productive, new herds, lines, families and types of cattle and hogs.

Two cattle breeds of dairy and meat specialization, that is, the Lithuanian black and white breed and the Lithuanian red breed, which comprise 58 and 42 percent of the total stock respectively, are raised in the republic. During the last decades the proportion of high-grade cows has increased from 12 to 90 percent, 79 percent of the animals being purebred. On public sector farms there are more than 553,000 cows. For 20 years the Lithuanian black and white livestock has been improved basically with sires of the Holland breed. During this period the milkiness of cows in the entire breed has increased by almost 1,000 kg and the fat content of milk, by 0.17 percent. For many years the Baysogal Experimental Farm has been the leading farm for this breed and now the educational farm of the Lithuanian Veterinary Academy occupies a firm place.



Six plant lines have been developed. The average annual productivity of adult cows of the last two lines, which have already been approved, is 6,000 kg of milk with a fat content of 3.98 percent.

The Lithuanian red breed is improved with Danish red bulls. In 15 years the average productivity of the entire breed of cows has increased by 566 kg and the fat content of milk, by 0.2 percent, now comprising 3.7 to 3.8 percent. With respect to the Lithuanian red breed the Draugiste Kolkhoz in Pasvalskiy Rayon, in which in 1982 the average milk yield per cow totaled 5,037 kg with a yield of 91 calves per 100 cows, should be considered a model pedigree stock farm.

One Lithuanian white breed of hogs, which comprise 98 percent of their total stock, a breed approved in 1967, is raised in the republic. There are 32 pedigree hog farms and 88 pedigree hog sections, in which about 15 percent of the total stock is kept. A total of 89 percent of the sows are high-grade in terms of their breed. Among advanced pedigree farms the Draugas Kolkhoz and the Kolkhoz imeni Chernyakhovskiy in Radvilishkskiy Rayon, in which in cooperation with the specialists of the division of hog breeding of our institute new lines of hogs are developed, should be noted. On these pedigree farms there are always hogs with superior economic-pedigree qualities and their largest number is used for improving other herds of hogs. For the purpose of the industrial crossing and development of specialized lines 10 pedigree farms of imported hogs have been established. There are five stations for the control fattening of hogs. A total of 31 hog breeding complexes with an annual productivity ranging from 12,000 to 54,000 hogs now operate. They produce 21.8 percent of the pork of the public sector. The Shirvinta Hog Breeding Complex in Shirvintskiy Rayon and the Shyaulenay Hog Breeding Complex in Radvilishkskiy Rayon occupy the leading place in the raising and fattening of hogs.

One Lithuanian black-head breed of sheep is raised in the republic, but its share comprises only about 0.5 percent of the total meat production.

The share of poultry meat in the total balance comprises 10.6 percent. There are five and soon there will be seven poultry factories. About 640 million eggs are annually produced in the public sector. In intensive broiler raising the republic occupies the first place in the country.

Livestock and hog breeds in the republic are well adapted to local conditions and are intensively improved with other breeds, but their own potentials for productivity are much higher than those that are attained now.

Animal husbandry has now become a very complex system, whose structure and management is connected with many factors. The feed base in the republic develops along an ascending curve, but unevenly, often causing a disproportion, basically between the number of animals and the feed base, which in turn leads to a decline in the sector's intensity. Extensive animal husbandry is the enemy of productive and pedigree animal husbandry. For example, in 1981, as compared with 1968, the number of hogs doubled, while pork production rose by only 42 percent. If the intensity of hog growth had been maintained, pork

production would have increased 2.3-fold. This example is an old, long-known truth. It points to the fact that a lack of correspondence between the feed base and the number of animals leads to an inefficient utilization of feed for the production of livestock products. Therefore, the main task now lies in accelerating the rates of establishment of a firm feed base. This means that it is necessary to strive for an annual stable accumulation of the necessary assortment of high-quality feed ensuring an intensive high-grade feeding of all types and groups of animals according to their biological needs. A biologically high-grade feeding of animals is possible only when cattle rations contain no less than 25 and hog rations, 50 to 53 nutrient and physiologically active substances.

That is why farm managers and specialists now face an urgent task--to provide all types and groups of farm animals with all the necessary basic nutrient substances, primarily from locally produced feed. The Draugiste Kolkhoz in Pasvalskiy Rayon and the Skemyay Kolkhoz in Radvilishkskiy Rayon are a striking example in this respect. Of course, industry, primarily the microbiological industry, should provide big help in this area. We must not tolerate a situation where plans for the production, accumulation, assortment and quality of feed are not fulfilled on some farms year after year.

The organization of the production of livestock products at complexes is a big forward step along the path of its transfer to an industrial basis. At hog breeding complexes (animal husbandry enterprises) the economic indicators of hog fattening are much higher than at ordinary sections. For example, in 1981 the average daily increase in the weight of fattening hogs at these complexes amounted to 552 grams, or was 30 percent higher than the average throughout the republic. At the same time, labor expenditures at hog breeding complexes total 7.4 man-hours per quintal of weight gain, or almost one-fourth of the average in the republic. However, the output envisaged by technology at complexes has not yet been attained. Therefore, the immediate task now is to provide animals, especially at complexes and big sections, with high-grade feeding, at the same time, observing all the technological requirements for raising, keeping and using them. It is necessary to significantly improve the work on the introduction of veterinary prophylaxis and on the preventive treatment of farm animals, because a big potential for an increase in productivity lies in this. At present many dairy cows are culled because of udder diseases and disturbances in their reproductive capacity.

To improve the economic indicators of the production of livestock products, it is necessary to use a type of feeding that ensures an increase in productivity and cheaper products. Of course, when multicomponent rations containing root crops are used, milk production costs much more than when mainly grass fodder is used. Therefore, milk production models with cows being fed mainly grass fodder have been tested. Very interesting scientific production experiments have been conducted at the Valinava Dairy Section on the Dotnuva Experimental Farm of the Lithuanian Scientific Research Institute of Zoology. Although high milk yields have been obtained, nevertheless, it has not been possible to popularize this experience on the scale of the entire economy. The feeding of the same type of grass fodder has led to a significant overexpenditure of concentrates and it has not been possible to do without the feeding of molasses.

Nevertheless, the farms that have highly productive cultivated pastures with a big proportion of leguminous grass have solved the problem of preparation of high-quality feed of the necessary assortment ensuring a high-grade balanced feeding of livestock. Such a type of feeding can be promising right now. However, even when these conditions for the feeding of highly productive cows are fulfilled, owing to the limited edibility of grass fodder by them, we will not do without root crops and high-energy mixed grain feed.

For us it is very important to more extensively introduce advanced technologies of feed preparation ensuring the minimization of nutrient losses. In this respect of great interest are the methods of artificial dehydration of grass fodder, especially during rainy years. However, the scantiness of energy resources and the high cost of their preparation limit a more extensive introduction of these methods. Therefore, the production of haylage and silage, drying of seeds by means of active ventilation, chemical preservation of silage, especially with organic acids, and production of grass meal (granules) as a source of vitamins are the most promising technologies for our republic. At the same time, it is necessary to conduct investigations in the field of the chemical preservation of hay and fodder grain and the biological preservation of grass fodder. It is necessary to accelerate the development of quick methods of determining the quality of feed and of the admixtures in it, which are harmful for animals, and the number of physiologically active substances in mixed feed.

On no account must such high losses of agricultural products, which have occurred until now, be tolerated. Efforts must be directed not only toward an increase in output and in an improvement in its quality, but also toward the preservation and full utilization of everything that we already have or attain. Unfortunately, there are big losses during the harvesting and storage of grain products, not to mention losses of nutrients in coarse and succulent feed. The unskillful organization and violation of the technology of feed production, lack of well-prepared and equipped grain storage facilities, warehouses and feed storage facilities and late harvesting do irreparable damage to agriculture. According to preliminary estimates, to this day we annually lose about 30 percent of the protein of grass fodder. Of course, such a situation has a negative effect on the quality of feed. Inferior and low-quality feed is the scourge of animal husbandry. It leads to the overexpenditure of feed per unit of output and significantly increases the epizooty and morbidity of animals. Therefore, the production of high-quality feed should become a well organized and efficiently controlled process also encompassing the waste of plant growing, vegetable growing, horticulture and timber and food industries.

The processing and preparation of feed, primarily of moist full-ration feed mixtures, are significant potentials for an increase in the productivity of livestock. The Yaunoyi Gvardiya Kolkhoz in Lazdiyskiy Rayon, the Zhel'svyale Kolkhoz in Kapsukskiy Rayon and many others follow this path.

The shortage of protein, sugar and some other amino acids in rations is especially acute in the feeding of farm animals in the republic, as well as in the country. According to preliminary data, for the normalization of animal rations in terms of protein leguminous crops, including leguminous grass, must comprise 30 to 35 percent of the total area of fodder crop rotations. Of course, it is not so simple to rapidly reorganize plant growing. Therefore, the microbiological industry can play an important role in the solution of the protein problem.

Making up for the shortage of sugar in rations is the next very important problem, especially in the feeding of livestock and highly productive cows. An extensive introduction of the chemical preservation of grass fodder and the preservation of sugar in it in this way can only partially compensate for this shortage. The production of sugar (molasses) from timber is still in its infancy, so that it will continue to be impossible to do without root crops. Therefore, the multicomponent type of feeding is now the most suitable in the republic and will continue to be so in the very near future. Of course, cattle rations must be saturated with high-quality bulk and grass fodder at the expense of a decrease in the proportion of grain feed and the rations of intensively raised fattening hogs and poultry should consist mainly of mixed feed. Sows and pedigree hogs should be fed more leguminous grass and after-math in the summer and mixed silage in the winter.

New requirements appear during the transfer of animal husbandry to an industrial basis. The animals of our breeds do not quite comply with these requirements. Whereas Lithuanian white hogs adapt themselves well to the conditions of complexes, a considerable number of cows, owing to the insufficiently good physiological qualities of the udder, are not very suitable for use. It has been established that such qualities of animals as adaptation, the fat content of milk, some physiological properties of the udder and suitability for mechanical milking largely depend on genetic factors. These features can be more rapidly improved with genetic factors. The great importance of pedigree stockbreeding and selection work is manifested here. Breeder-zootechnicians must carry out this work constantly and systematically, because the improvement in genetic qualities is a continuous process. In other words, if animals are not constantly improved genetically, they deteriorate. Therefore, one of the basic tasks in animal husbandry is to improve pedigree work and to constantly engage in intensive selection. Special attention must be concentrated on the increase in the productivity of livestock at pedigree farms and sections and on the detection and evaluation of the potential productivity of bull producing cows. Taking into consideration the fact that the genetic progress of herds is determined to a significant degree by sires, their selection and evaluation according to the quality of offspring should be made on the basis of all present-day requirements and recommendations. However, the success of this work again largely depends on the proper feeding and keeping of animals. The better these conditions, the more effective the pedigree work.

In the republic well-organized systems of pedigree stockbreeding have been established and there is a firm basis for the further intensification of animal husbandry sectors. Now, however, animal husbandry faces urgent tasks, that is, to restore the previous good traditions of a normal raising of pedigree animals, to fundamentally improve the reproduction and stocking of herds, to increase the period of a productive utilization of cows and to improve their use. At the same time, it is necessary to efficiently introduce the requirements and rules of mechanical milking and the advanced methods of the brigade contract in labor organization.

Our institute's investigations will continue to be directed toward the strengthening of the feed base and the overall development and introduction of systems of high-grade and balanced feeding of highly productive animals

ensuring the maximum manifestation of the potential for their productivity under the conditions of concentration and specialization of animal husbandry on an industrial basis. Special attention will be concentrated on the introduction of the achievements of science and advanced experience into the practice of animal husbandry and on the increase in the effectiveness of labor of every scientific worker.

There is no doubt that zootechnical science as an integral part of the agroindustrial complex will make a worthy contribution to the cause of the further intensification of animal husbandry.

COPYRIGHT: Izdatel'stvo TsK KP Litvy, Vil'nyus, 1983

11,439

CSO: 1824/100



GOSPLAN OFFICIAL DISCUSSES PROBLEMS OF PLANNING IN APK SYSTEM

Moscow EKONOMIKA SEL'SKOGO KHOZYAYSTVA in Russian No 10, Oct 83 pp 43-49

[Article by P. Paskar', 1st deputy chairman of USSR Gosplan: "Improvements in Planning for Agroindustrial Complex"]

[Excerpt] One important condition for the successful implementation of the Food Program is that of proportional and balanced development for all branches of the APK [agroindustrial complex] through improvements in planning.

Whereas earlier, prior to the development of this program, we were concerned with improvements in planning for each branch separately, today the task has been expanded and intensified considerably. Improvements in planning work must now be carried out for a complex of branches that are concerned not only with the production but also with the procurements and processing of products and delivering them to the consumer in high quality condition.

It is known that over the past three five-year plans, coincidental with the industrialization of agricultural production and the introduction of industrial technologies and the development of specialization, an extensive network of enterprises and organizations has sprung up in the rural areas for the purpose of supplying the kolkhozes and sovkhozes with material resources, repairing and servicing equipment, applying fertilizers and carrying out land reclamation work, construction and the transporting, storage and processing of products. Highly specialized production operations have begun to appear in agriculture proper: enterprises, associations firms and so forth. Naturally, all of this has complicated inter-branch relationships and quite often led to disproportions developing.

The preparation and merging of plans for the development of individual branches belonging to the APK, with use being made of a departmental approach that is based upon existing methodological and methodical principles, have not ensured fully a solution for the inter-branch problems. It is for this reason that a considerable portion of the farming and animal husbandry products being produced is being lost irretrievably during the harvest, post-harvest processing, transporting, storage and industrial processing stages.

Under branch planning conditions, the capital-producing branches of industry reorganize production in an inefficient manner and they do not satisfy

those machinery and equipment requirements of agriculture and branches of the processing industry of the agroindustrial complex that are objectively conditioned by use of a progressive technology.

Great shortcomings exist in the distribution of the productive capabilities of branches of the processing industry and infrastructure. Their unjustified concentration in large cities and industrial centers and the lack of coordination in the construction of processing enterprises and departments of various departmental subordinations are leading to inefficient shipments of highly perishable products, to considerable product losses during shipments and to large labor and monetary-material expenditures.

All of this has required further improvements in planning for the APK.

And such work is being carried out at the present time.

Our party, in following Lenin's instruction that "all plans of individual production branches must be coordinated and linked together in a strict manner and at the same time a single economic plan must be composed as needed" (V.I. Lenin. Complete Works, Vol. 42, p 154), is consistently pursuing a course aimed at improving planning for the agroindustrial complex.

A complex of measures has been developed in conformity with the decisions handed down during the May (1982) Plenum of the CPSU Central Committee.

The work of enterprises and organizations attached to the USSR Ministry of Agriculture, the USSR Ministry of the Fruit and Vegetable Industry, the USSR Ministry of Land Reclamation and Water Resources, USSR Goskomsel'khoshtekhnika, USSR Ministry of the Food Industry, USSR Ministry of the Meat and Dairy Industry, USSR Ministry of the Fish Industry, USSR Ministry of Procurements, USSR Ministry of Rural Construction, USSR State Committee for Forestry, Main Administration of the Microbiological Industry of the USSR Council of Ministers and Tsentrsoyuz [Central Union of Consumers' Societies], which are included in the structure of the agroindustrial complex, will now be planned as a single whole, with a breakdown by branches (ministries and departments of the USSR).

USSR Gosplan will make the control figures for the indicators for developing the agroindustrial complex of the USSR available to the union republic councils of ministers for the agroindustrial complex as a whole, with a breakdown by branches (enterprises and organizations of republic subordination) and to the USSR ministries and departments in conformity with the existing system.

The union republic councils of ministers and the USSR ministries and departments will make the control figures for developing the agroindustrial complex available to the agricultural, industrial and other enterprises and organizations. In the process, consideration will be given to the fact that at all planning levels and simultaneously with the control figures for the procurement volumes for agricultural products and the production of industrial goods, control figures will be provided for the capital investment limits and the delivery volumes for mineral fertilizers, agricultural equipment and other indicators.

The kolkhozes, sovkhozes and other enterprises and organizations included in the structure of a RAPO /rayon agroindustrial association/, guided by the control figures, develop draft five-year plans for economic and social development (with a distribution of tasks by years) and they present them to their higher organs and RAPO at the specified times.

In the process, the enterprises and organizations of USSR Goskomsel'khoztekhnika, the Soyuzsel'khozkhimiya Association and the USSR Ministry of Land Reclamation and Water Resources prepare draft plans for providing production-technical services for the farms, equipment repair work, land reclamation and the use of chemical processes and capital construction, based upon requests by kolkhozes, sovkhozes and other agricultural enterprises and organizations and also taking into account the control figures made available to them for the established indicators.

The rayon agroindustrial associations examine the draft plans submitted and hand down decisions based upon them in accordance with the rights and obligations in the sphere of planning, as stipulated in the standard statute governing a rayon agroindustrial association.

The draft five-year plans for development of the agroindustrial complex of oblasts, krays and autonomous republics are examined by the executive committees of oblast and kray soviets of people's deputies and by the councils of ministers of autonomous republics. The oblast, kray and republic (ASSR) associations participate in the work of examining the mentioned draft plans in conformity with the standard statute governing these associations.

The union republic ministries and departments present the draft five-year plans to the union republic councils of ministers and to the appropriate USSR ministries and departments.

The union republic councils of ministers and USSR ministries and departments, based upon the control figures and the draft five-year plans for developing the oblast, kray and republic (ASSR) agroindustrial associations and also the draft plans for developing the branches, presented to them accordingly by the union republic ministries and departments and by the enterprises and organizations subordinate directly to them, prepare the draft five-year plans for the USSR ministries and departments (with a distribution of tasks by years) and present them to USSR Gosplan at the specified times.

USSR Gosplan, based upon the mentioned draft plans, prepares the section entitled "USSR Agroindustrial Complex" of the draft state five-year plan for the economic and social development of the USSR, with a breakdown by union republics, ministries and departments of the USSR (with a distribution of tasks by years).

The draft annual plans for developing the agroindustrial complex are composed based upon the tasks and economic norms of the five-year plan for a given year, with the necessary concrete definition of tasks in connection with the introduction of the latest scientific and engineering achievements, leading experience and the carrying out of economic and organizational measures aimed at ensuring fulfillment of the five-year plan.

The approved tasks for the five-year and annual plans are made available to the kolkhozes, sovkhozes and other enterprises and organizations of APK branches by the appropriate organs.

The production volumes for agricultural products are formed for the rayons, oblasts and republics based upon the plans of kolkhozes, sovkhozes and other agricultural enterprises and organizations and also based upon the need for ensuring unconditional fulfillment of the established procurement plans for these products.

V.I. Lenin, when emphasizing the vital need for taking into account the local conditions and peculiarities when implementing a centralized policy, pointed out that: "democratic centralism by no means rules out autonomy or federation, nor does it by any means eliminate but to the contrary it assumes complete freedom for various localities and even various communities of the state in the working out of diverse forms for state, social and economic life" (Complete Works, Vol. 36, pp 151-152). Specialists, especially those attached to planning organs, and also farm economists should devote special attention to this Leninist precept. A study of the status of affairs in the various areas, carried out by USSR Gosplan specialists, has shown that in some areas, notwithstanding the requirements of the party and government, the kolkhozes and sovkhozes just as in the past have been assigned tasks not called for in the state plans for the economic and social development of the USSR and the union republics. And indeed this is paralyzing the initiative of the specialists, dampening their ardor and orienting them towards constantly expecting instructions from on high on matters concerned with production technology and not towards professional personal responsibility for their assigned area of work. The May (1982) Plenum of the CPSU Central Committee demanded an end to this practice.

In connection with improving all work associated with implementing improvements in APK planning, importance is attached to the fact that an evaluation of the work concerned with the development of rayon, oblast, kray or republic (ASSR) agroindustrial associations will now be carried out based upon the results of fulfillment by kolkhozes, sovkhozes and other enterprises and organizations belonging to agroindustrial associations, of the planned tasks for state procurements of agricultural products and deliveries of these products to the all-union and republic funds, the production plans and the deliveries of industrial products in terms of both volume and principal nomenclature.

When preparing the draft plans for developing the agroindustrial complex of rayons, oblasts, krays and autonomous and union republics, the following work will be carried out:

...long-range plans for specialization and distribution of agricultural production, enterprises for the acceptance, processing and storage of agricultural products, repair-technical workshops and also plans for the development of inter-farm cooperation and agroindustrial integration based upon the recommendations of kolkhozes, sovkhozes and other enterprises and organizations of branches of the agroindustrial complex;

...comprehensive food and other special purpose programs, while ensuring that they are necessarily coordinated with the appropriate sections of the plan and the material and financial resources allocated for this purpose;

...an open section for an entire complex of measures in the sphere of social development.

The union republic councils of ministers are now authorized to redistribute in the event of need, during the 1st quarter and by agreement with the appropriate ministries and departments of the USSR, the limits for capital investments and construction-installation work among the branches of the agroindustrial complex for the purpose of orienting them towards overcoming backwardness and disproportions in the development of individual branches. Moreover the volumes withdrawn from use for capital investment or construction-installation work must not exceed 15 percent of the overall volume for the respective branch. The redistribution is carried out with no change in the established plans for placing capabilities or fixed capital in operation, or plans for the production, procurement or sale of products.

During this modern stage in the development of our country's national economy, one decisive factor for rapidly increasing its efficiency is that of introducing the achievements of scientific-technical progress into production operations on an extensive scale.

This fully applies to the branches of the APK, especially agriculture, and to be more exact, it applies to these branches to a considerably greater degree than it does to other branches of the economy. In conformity with the new system of planning, the draft five-year and annual plans for economic and social development of the USSR call for the "agricultural" branch of the USSR Ministry of Agriculture to be provided with the capital investments and logistical resources required for carrying out an experimental check, under production conditions, at sovkhozes and other state agricultural enterprises of both union and republic subordination and also at kolkhozes, on the progressive technologies employed in the cultivation of agricultural crops, the maintenance of livestock and poultry, ensuring the safeguarding and processing of products and for organizing the production of deficit seed and hybrids.

In the interest of creating the conditions required for fulfillment by the agroindustrial associations of the functions assigned to them in the area of logistical supply, it has been established that the logistical supply plans for kolkhozes, sovkhozes and other enterprises and organizations of the agroindustrial complex are a component part of the five-year and annual plans and are based upon farm requests for logistical resources, in the volumes required for fulfillment of their plans.

The draft five-year and annual plans for the distribution of logistical resources among the kolkhozes, sovkhozes and other enterprises and organizations belonging to agroindustrial associations are examined by the rayon, oblast, kray and republic (ASSR) agroindustrial associations in conformity with the laws set forth in the standard statutes for the indicated associations in the area of logistical supply.



One problem in the development of agriculture and other branches of the APK which has surfaced in recent years and which is seriously hindering improvements in planning is the organizational and economic isolation of kolkhozes, sovkhoses and the organizations that provide services for them, organizations subordinate to Goskomsel'khoztekhnika, the Ministry of Procurements, Soyuzsel'khozkhimiya and others.

For example, the territorial departments of Goskomsel'khoztekhnika were for all practical purposes not responsible for the operation of the machine-tractor pool at kolkhozes and sovkhoses. They had no economic interest in increasing the production of agricultural products. The rates of growth for cost accounting profit in this system exceeded by almost twofold the rates for increased work volumes in providing services for the farms.

A similar situation developed in the interrelationships of kolkhozes and sovkhoses on the one hand with enterprises and organizations of Soyuzsel'khozkhimiya and the USSR Ministry of Land Reclamation and Water Resources on the other. The system which existed earlier for paying for the services of their enterprises was not associated with the final production results for farming and animal husbandry operations.

In many instances the industrial processing enterprises were not completely interested in the timely purchasing of agricultural raw materials, in processing all of the products being received or in steadily improving the quality of the products.

By persistently and purposefully implementing Lenin's agrarian policies, our party is solving this urgent problem in keeping with the modern requirements.

"A requirement for the present time and a programmed task for the future" emphasized Comrade Yu.V. Andropov during the June (1983) Plenum of the CPSU Central Committee, "is that of ensuring well organized and continuous operation of the entire economic mechanism."

The CPSU Central Committee and the USSR Council of Ministers, in conformity with the decisions handed down during the May (1984) Plenum of the party's central committee, adopted the decree entitled "Improving Economic Relationships Between Agriculture and Other Branches of the National Economy." This decree called for the implementation of measures aimed at achieving stable economic conditions for expanded reproduction at kolkhozes and sovkhoses; a change in the existing system for planning and utilizing the profits of those enterprises and organizations which provide services for agriculture; greater interest on the part of the procurement and other organizations providing services for kolkhozes and sovkhoses in achieving high final results in the production of agricultural products.

When evaluating the work of those enterprises and organizations of Goskomsel'khoztekhnika, Soyuzsel'khozkhimiya and USSR Minvodka which provide services for the kolkhozes and sovkhoses and when forming their funds for material incentives and bonuses, the chief indicators will now be an increase in the production of agricultural products at the farms being serviced, the

fulfillment of contractual obligations and a reduction in the costs for work and services and in the case of procurement enterprises and organizations -- fulfillment of the state plan for procurements of agricultural products and raw materials, growth in the procurement volumes, ensuring the safeguarding, timely processing and delivery of products to the consumers in a broad assortment and in high quality condition and a reduction in expenditures for the procurement, storage and processing of the products.

The plans also stipulate that when the work performed by enterprises and organizations which service the kolkhozes and sovkhoses is a component part of the technological process for the production of agricultural products, the accounts maintained with these enterprises and organizations throughout the year will be based upon 92 percent of the cost of the work actually carried out. The final accounting at the end of the year for this work is carried out depending upon fulfillment of the production plans for agricultural products at the farms so serviced. The seasonal disruption in the payment of funds to the servicing enterprises will be compensated by means of USSR Gosbank credit for the planned expenditures.

The total amount of profit for the enterprises and organizations of Sel'khoztekhnika, Sel'khozkhimiya and USSR Minvodka which provide services for agriculture will be coordinated with the appropriate agroindustrial associations and approved by a higher organ according to subordination.

It has been established on the basis of a decree that 50 percent of the total amount of above-plan profit earned by the servicing enterprises and organizations for production-technical, agrochemical and land reclamation services provided by them will be returned to the kolkhozes and sovkhoses.

For work and services performed in behalf of kolkhozes and sovkhoses, the profitability norm for the servicing enterprises and organizations is established in the amount of 8 percent of the cost of this work and services.

The decree is directed towards improving the quality of the technical services being provided for agriculture. Thus the removal of defects uncovered during the warranty period in new and repaired tractors, agricultural machines and equipment, sold to kolkhozes and sovkhoses, must now be carried out by the associations and departments of Sel'khoztekhnika. Imperfections in the agricultural land reclamation network must be corrected by the agricultural organizations at their own expense.

The responsibility of producing enterprises for ensuring that the kolkhozes and sovkhoses are supplied with high quality equipment, mineral fertilizers and other chemical products has been raised.

The appropriate ministries and departments have been tasked with preparing, within a 3 month period, statutes on a system for concluding and executing contracts for the provision of production-technical, agrochemical and land reclamation services to kolkhozes, sovkhoses and other agricultural enterprises by enterprises and organizations of Goskomsel'khoztekhnika, Soyuzsel'khozkhimiya and USSR Minvodka.

The decree calls for the regulation of price formation work in behalf of agricultural products. By agreement with the interested ministries and departments, the USSR Goskomsen /State Price Committee/ has been tasked, simultaneously with the draft plan for the next five-year plan and based upon changes in the ratios for the effective purchasing prices for agricultural products and the wholesale prices for industrial products delivered to agriculture and also the rates and tariffs for services provided to kolkhozes, sovkhoses and other agricultural enterprises and organizations, with introducing recommendations for the purchasing prices for agricultural products and the bonuses for adding on to them.

\* \* \*

Measures aimed at raising the efficiency of the APK are numerous and specific in nature. But in order for them to be carried out successfully, they must be thoroughly understood by each leader, specialist and worker in the agroindustrial complex, economic operations at the kolkhozes and sovkhoses and at the enterprises and organizations which provide them with services must be strengthened considerably and effective intra-farm accounting procedures and also collective contracts must be introduced into operations in the brigades, departments, farms and sectors. In order to raise labor productivity, lower production costs, raise product quality and reduce output losses, measures must also be undertaken aimed at strengthening planning, technological, financial and executive discipline.

The process of improving planning for the agroindustrial complex and improving the fulfillment of plans will proceed more successfully in those instances where new economic levers and stimuli are employed as effective instruments at each working position and where the workers participate actively in searching for and mobilizing the intra-production reserves.

In Article 6 of the USSR law governing "Labor Collectives and Raising Their Role in the Administration of Enterprises, Institutes and Organizations," it is stated that labor collectives participate in the preparation and discussion of draft long-range and current plans for economic and social development, they develop and accept counter plans which take into account the additional reserves and potential, they implement measures for carrying out the plans and contractual obligations and for strengthening and developing cost accounting procedures and they follow the administration's guidance concerning the fulfillment of plans and contractual obligations and the reasons for changes in the plans.

The Communist Party and Soviet Government are doing everything possible in the interest of achieving a rapid solution for the most important all-state task -- ensuring a continuous supply of high quality food products for the Soviet people.

It was for this very reason that the Food Program was developed, the successful fulfillment of which is greatly dependent upon shock work being performed by the labor collectives of the APK and their specific participation in discussing the long-term and current production plans and upon their fulfillment of counter plans and all socialist obligations undertaken.

The Food Program is confronting all of the APK workers with great and complicated tasks, which life itself and the interests associated with the country's development are advancing to the leading edge of our economy. While accumulating tremendous material and labor resources for the purpose of satisfying the most urgent needs of people, it at the same time requires good organizational ability, responsibility and creativity from each worker.

This current year -- the third and decisive year of the five-year plan -- is serving as a serious examination for all elements of the agroindustrial complex. The successful solving of the large-scale tasks associated with increasing the production and procurements of agricultural products is dependent to a considerable degree precisely upon the operational results for this year, upon the timely and high quality harvesting of all of the crops grown and upon the proper transporting and safeguarding of the crops.

And all of this can be achieved on the basis of harmonious work by the ~~sel'khoz~~sozes, sovkhoses, the organizations of Sel'khozkhimiya, Sel'khoztekhnika, the procurement and processing enterprises and the transport and trade organizations. Importance is attached to making more complete use of the new and extensive opportunities that are available for closer and mutual interesting work among the APK branches and to organizing the work in a manner such that in the final analysis it exerts an influence on growth in labor productivity and in the production of high quality food products. This will represent a specific contribution by the APK workers in the campaign for implementing the socio-economic policies of our party, directed towards further improving the well-being of the Soviet people.

COPYRIGHT: Izdatel'stvo "Kolos", "Ekonomika sel'skogo khozyaystva", No 10, 1983

7016

CSO: 1824/89

PLANNING EFFECTIVE CAPITAL INVESTMENT IN APK BRANCHES

Moscow DEN'GI I KREDIT in Russian No 4, Apr 83 pp 62-67

[Articles by T. V. Konovalova and V. F. Kutsenko, candidate of economic sciences: "Capital Investments in the Agro-Industrial Complex"]

[Article by T. V. Konovalova]

[Text] Of major importance to implementing the Food Program, developed in accordance with the decisions of the 26th CPSU Congress and approved by the May (1982) CPSU Central Committee Plenum, is the further development of the specialization and concentration of agricultural production as based on inter-farm co-production and agro-industrial integration. The complexity and great scale of the impending tasks pose fundamentally new requirements to the system of management and economic machinery of farming. The problem of a comprehensive systemic approach to the solution of capital investment problems is becoming particularly important. In this connection, considerable attention is devoted to planning problems in every branch of the agro-industrial complex, with production to be maximally geared to attaining high end-results. In the presence of inter-farm co-production this means above all a scientifically substantiated planning of the volume and directions of capital investments with allowance for the specialization and concentration of production.

In view of the tasks facing the agro-industrial complex at the present stage, further improvements in the planning of capital investments geared to inter-farm co-production should proceed from the need to convert branches of agriculture to an industrialized basis with allowance for the maximum utilization of the advantages of inter-farm co-production, a rational utilization of land, manpower, material and financial resources, the attainment of scientifically substantiated levels of production equipment fund, the intensification of the social orientation of capital investment plans and the assurance of a planned development of the specialization and concentration of agricultural production.

At the present stage of the development of agriculture as based on inter-farm co-production and agro-industrial integration, it is becoming necessary to compose an integrated long-range plan for the development of all the enterprises of the various branches entering in the rayon agro-industrial complex. The integrated plan for the rayon agro-industrial complex should represent a targeted program for its development with allowance for the



specialization and concentration of production as based on inter-farm co-production and agro-industrial integration.

Experience in centralizing the economic efforts of enterprises and organizations of the agrarian sector as regards capital investment planning has been gained in Latvia, Georgia, Estonia and Lithuania where, on the decision of the local administrative organs, rayon agro-industrial associations (RAPOs) were established by way of an experiment. The operating practice of the RAPOs shows that if the principal economic unit in a rural rayon is the agro-industrial association of kolkhozes, sovkhoses, inter-farm enterprises and other enterprises and organizations serving agriculture in the rayon, then the plan of that association essentially becomes the core of the comprehensive development plan for the rayon.

The establishment of the RAPOs has broadened the possibilities for planning the capital investments needed for the further growth of the material-technical base of kolkhozes, sovkhoses and inter-farm enterprises. Thus while previously capital investments used to be allocated to a rayon through a number of channels, under the new conditions--as shown by the experience of the RAPOs in the Abashskiy and Makharadzevskiy rayons of the Georgian SSR, the association became the single channel through which these investments are funneled into the rayon. This is done with allowance for the possibilities for inter-farm co-production. This may be exemplified by the construction of the inter-farm dairy complex in Makharadzevskiy Rayon and the inter-farm animal husbandry complex in Abashskiy Rayon, Georgian SSR, as well as by the construction of various other enterprises.

The considerable capital-intensiveness of the construction of inter-farm enterprises, e.g. in animal husbandry, requires coordinating it with other branches of the APK [Agro-Industrial Complex] (fodder production, livestock breeding, etc.) in long-range planning. Hence, certain economists propose coordinating the activities of the participants in inter-farm co-production and determining the schedules and proportions of resources allocation by establishing a single prime customer service as well as, for the organization of construction, a single prime contractor service. While we support this view on the whole, we believe that these services should become part of the rayon agro-industrial association. The single customer should, in our opinion, dispose of specific financial resources for funding construction, especially that of inter-farm facilities, and in this connection it should have the decisive voice in planning capital outlays on a particular facility. For closer contact during the planning and financing of capital investments as well as for closer monitoring, the composition of the RAPO should also include representatives of the financing branch of the Gosbank and the Stroybank, since the interests of both the customer and the contractor intersect within the bank organs.

In connection with the broad inter-farm co-production and agro-industrial integration, the coordination of the plans of the farms belonging in a RAPO with respect to both the volume of capital investments and the funding sources and construction schedules requires drafting appropriate norms as to the share of each participant, the deductions to the economic stimulation funds and the proportions between own and borrowed funds in the sources for funding capital investments. Also needed is a uniform procedure for drafting plans and applying uniform indicators in the plans of the co-production participants, as

is a reliable balancing of the volume capital investments with the possibilities of construction organizations.

This last aspect is topical because certain inter-farm construction organizations and trusts in some rayons as yet lack adequate capacities for handling the volume of capital investments planned for inter-farm enterprises and kolkhozes and sovkhozes. As a rule, all inter-farm construction enterprises and trusts are located in rayon seats and hence a large part of their construction and installation operations is done in behalf of enterprises that do not belong in the agro-industrial complex. Moreover, in certain rayons, oblasts, krays and ASSRs the agricultural organs not infrequently incorporate new construction projects in their plans without taking into account the possibilities of construction organizations for completing these projects on schedule and activating new production facilities. The solution of this problem requires, above all, determining more precisely the capacities of construction organizations (including the inter-farm ones). As known, pursuant to the decree of 12 July 1979 of the CPSU Central Committee and the USSR Council of Ministers "On Improving the Planning and Strengthening the Effect of the Economic Mechanism on the Increase in the Effectiveness of Production and Improvement in the Quality of Performance," every production association or enterprise is expected to provide a certificate containing data on the availability and utilization of its productive capacities. In our opinion, this duty should also be extended to the inter-farm construction organizations and agricultural construction trusts.

An important condition for enhancing the effectiveness of capital construction in the countryside is balancing the capital investment plans with their funding sources and planning both existing production and new construction as a single whole so that capital outlays would be allocated not for a particular project but for the planned volume of production and services. Before funds are to be invested in the construction of a facility, substantiating technical-economic data have to be on hand. Such data should be based on the real situation existing not in the individual enterprises but in a rayon as a whole. This is particularly important in the presence of inter-farm co-production, in order to avoid the dispersal of resources and the construction of unnecessary facilities, such as still happens in places. This also concerns a comprehensive approach to the development of inter-farm co-production and the balancing of the capacities of livestock enterprises with the capacities of the fodder base. It is important to eliminate the existing instances of dissipation of resources on the construction of numerous facilities that are not mutually linked by the common goal of producing the end-product.

The allocations of capital investments on the construction of livestock premises are not always reinforced with the necessary measures to expand the livestock population, improve breeding and organize the fodder base. The absence of a comprehensive approach results in that a number of farms lacks adequate sources for defraying their expenditures on reproducing the basic herd. Some inter-farm enterprises disposing of productive capacities are unable to complement them through own herd reproduction and the acquisition of livestock from participating farms. We consider it expedient to plan for capital investments in improving livestock breeding and forming the basic herd through a centralized procedure, that is, to include these indicators in the composite 5-year and yearly plans of capital investments within the section

"Formation of Basic Herd." In our opinion, this would promote a more comprehensive approach to forming the basic herd.

Currently a growing role is played by the technological modernization of the existing inter-farm enterprises. To improve the planning of the reproduction structure of the fixed assets and the allocation of capital outlays for this purpose, a special table, "Reproduction Structure of Capital Investments," analogous to the annual-report table, should, in our opinion, be included in the production-financial plan of the inter-farm enterprise as well as in the plans of the farms participating in co-production at that enterprise. The table should include the following indicators: volume of capital investments, activation of fixed assets for modernization, introduction of new technologies, expansion of existing enterprises, and construction of new facilities. This would assure a closer coordination of the composite 5-year investment plans of the ministries and departments reflecting the reproduction structure of capital investments, as well as of the yearly plans of inter-farm enterprises and the farms participating in these enterprises.

A basic direction of improvement in planning capital investments in inter-farm enterprises is the assurance of a comprehensive approach to the development of the material-technical base of these enterprises and the participating farms, since nowadays a more efficient coordination of the activities of the co-producing enterprises is needed. This would serve as the basis for compiling subsequent plans of capital investments at various administrative levels and assure coordinating the capital investment plans of the co-producing enterprises. Moreover, the considerable capital-intensiveness of the agricultural enterprises now under construction, requires coordinating their construction with that of other facilities of the agro-industrial complex for purposes of long-range planning.

An important problem as regards capital investment planning and the implementation of capital construction at inter-farm enterprises is assuring the continuity of plans. The Orel system for the continuous planning of capital investments and their funding sources has proved itself to be an effective instrument for making capital investment planning more effective.

A factor contributing to a more effective utilization of capital investments has been the conversion from annual to biennial continuous planning, design and construction of facilities in certain oblasts of the Non-Chernozem Zone of the RSFSR. For example, in the Pskov and Orel oblasts this planning is done as follows: At year-end the plan for the next 2 years is prepared. The plan for the first year is a working document and is not subject to revisions. The plan for the second year is a draft plan and thus it is defined more precisely only in the last quarter of the preceding year. The resulting working plan for the second year takes into account all uncompleted construction carried over from the first year, new construction, and the preliminary volume of capital investments for the third year.

Under the existing planning procedure, the plan indicators of the numerous participants in inter-farm co-production take a long time to coordinate and this, as known, results in delays in the allocation of funding by the local branches of the Gosbank. To streamline the operations of construction organizations and help inter-farm enterprises and the participating farms to determine promptly their own capital investment needs, it appears

expedient to convert to 2-year planning of capital investments within the confines of the rayon agro-industrial association. In this connection, we believe that a needs-assessment plan should be compiled by the participating farms for 2 years ahead, along with the allocation of capital investments and determination of their funding sources for the planned year.

Such a planning procedure will assure the timely preparation of cost estimates, provide for the completion of carryover construction projects, expedite the provision of funds by local branches of the Gosbank and serve to speed up the transition to a stable 5-year plan. However, a one-sided approach to the solution of this problem should not be adopted. We share the opinion of those economists who believe that the coordination of the planning and financing of capital investments by the participating farms and the single customer service requires conversion to 2-year planning. The rayon agro-industrial complex should include a single prime contractor service for coordinating and balancing construction plans for the rayon as a whole. The conversion to 2-year planning will not produce fruit unless the single prime contractor service and the single prime customer service also convert at the same time to continuous 2-year planning. The conversion from annual to 2-year continuous planning, design and construction of facilities will strengthen the continuity of the financing of carryover projects and assure a more effective utilization of the funds allocated for capital investments.

At present the planning of capital investments for inter-farm enterprises is part of the 5-year and yearly plans of sovkhozes and kolkhozes. This procedure is not economically substantiated, being due to the variety of types of the participating farming enterprises. The distribution of capital investments between sovkhozes and inter-farm enterprises as well as between kolkhozes and inter-farm enterprises is determined at the level of the oblast administration of agriculture, and it is not always determined correctly. To improve the planning of capital investments for inter-farm enterprises and balance the volume of these investments with the available material, equipment, manpower and financial resources, it would be expedient, in our opinion, to specify that volume in 5-year and yearly plans along with the corresponding indicators for kolkhozes and sovkhozes.

Further improvements in the financing of capital investments are linked to improving the planning of the requisite funding sources. Given the existing planning procedure, the composition and structure of these sources have to be revised. This is because the already existing enterprises have to finance their capital spending not only from their own income and sinking fund but also by enhancing the mobilization of their own resources at the expense of a diminution in the resources of the participating farms. A more rational utilization and planning of proportional participation in capital outlays requires, in our opinion, introducing norms for the proportions between the own resources of the inter-farm enterprises to be spent on capital outlays and the resources to be contributed by the participating farms. This would make it possible to form stable funding sources for capital spending and thereby also to obviate unnecessary diversion of the state's credit resources for this purpose.



[Article by V. F. Kutsenko]

The implementation of the USSR Food Program hinges on increasing in all ways the effectiveness of capital investments in agriculture: for the 11th 5-Year Plan 189.6 billion rubles is to be spent on developing agriculture.

A large part of the capital outlays of agricultural enterprises is spent on expanding, modernizing and technological updating of the existing livestock complexes, poultry factories and other high-capacity facilities of the complex type.

Expediting the growth rate of production requires that the newly built and activated agricultural enterprises attain their designed capacities as soon as possible. The restructuring of the financial-credit machinery in capital construction also is geared to this goal.

The conversion of construction enterprises to the new conditions of planning and clearing of accounts for the completed construction and activation of enterprises, start-up complexes, sections and facilities that are ready to produce output or provide services, makes the performance of the construction contractors directly dependent on fulfilling the indicator of marketable output sold.

the release of the completed construction project for use, the branches of the Gosbank grant loans for uncompleted construction operations to building contractors. The machinery for granting loans serves to monitor the most important stage of the investment process--project construction--from its beginning till the activation of productive capacities. Also utilized here is the time factor--the requirement that the contractor adhere to the norms for the duration of construction. Considering that the end-result of the investment process should be the attainment of designed capacity of the facilities built, the banks should also exercise greater influence following the activation of the facility as well.

As known, long-term credit serves as a source for the state's funding of the capital investments of agricultural enterprises intended to expand and modernize animal-husbandry and other facilities as well as to build new poultry factories and livestock complexes supplied with fodder from the state's resources.

By broadening the capital-spending possibilities of discrete enterprises, credit acts--by virtue of the requirement that it be repaid on schedule--as a stimulus to the borrowers by prompting them to spend funds in such a way as to maximize output-capital ratio and repay their debts as rapidly as possible. But practice shows that the existing procedure for granting bank loans does not motivate borrowers to put them to use as soon as possible. The mechanism of the long-term bank credit for capital investments does not, in our opinion, adequately link the utilization of borrowed funds to the attainment of the end-result of that utilization. When determining the repayment schedules for long-term loans, the branches of the Gosbank guide themselves by the prescribed time limits.

Under the new conditions of the financing of construction the financial-credit mechanism has to meet higher requirements at every stage of the investment



process, inclusive of the final stage of the utilization of the activated production facilities, because the end-result of capital outlays hinges on the attainment of the maximum capacity of these facilities. In cases in which agricultural enterprises build new facilities with long-term loans, it is necessary to enhance the bank's influence on the borrowers so as to promote attaining as soon as possible the designed capacity of these facilities.

Strengthening the motivating effect of the long-term loan on the borrower is, in our opinion, rationally achieved by enhancing the role of the loan repayment schedule. Economically substantiated repayment schedules motivate borrowers to expedite the utilization of new capacities, this being decisive to the repayment of loans and increase in effectiveness of production. Loan repayment schedules also are of great importance to society as a whole, considering that the sooner the credit resources are released from turnover at agricultural enterprises the more resources can be advanced for the new turnover. At the same time, the fact that the farm has to repay its loans not only with funds derived from the operation of new loan-funded facilities but also from its sinking fund and economic stimulation fund, motivates the farm to expand its reproduction. Consequently, loan repayment schedules reflect the interests of both individual farming enterprises and the society as a whole, and hence also these schedules can be utilized to strengthen the role of credit in enhancing the effectiveness of capital investments. By linking the loan repayment schedules to the attainment of the end-result of the investment process, the bank can influence the borrowers to expedite the utilization of newly built facilities and repay the money borrowed.

Proceeding from the above premises, it appears expedient to adjust the loan repayment schedules so as to link them to the activation of completed facilities when deciding on the granting of loans to agricultural enterprises for the construction, expansion and modernization of production facilities, within the framework of the established credit ceilings. In this connection, that schedule should be more closely linked to the planned schedule for putting new facilities into operation and attaining designed capacities; in our opinion, this will make borrowers more interested in selecting the most rational project designs. Another advantage of such a procedure for linking the loan repayment schedule to the project activation schedule is that this also serves to link specific repayment periods to the recoupement of the borrowed investment capital.

Indicative in this connection is the experience in granting loans for the construction of poultry factories under the Glavptitseprom [Main Administration of the Poultry Industry] of the USSR Ministry of Agriculture. Since 1970 a number of poultry factories has been built with long-term loans. The loan terms provided that installment repayments should be linked to the normative schedules for the construction and start-up of productive facilities as specified in the technical designs, but also that the entire loan should be repaid not later than 6 years after the factory is put into operation. Such a loan repayment deadline is geared to the expected period of the recoupement of capital outlays.

Experience showed that facilities were put into operation on schedule and in accordance with plans. Such a procedure served to speed up the repayment of loans by accelerating capacity activation. Experience also showed that the

potential for expediting the repayment of borrowed funds does exist, and it is considered that accounts for shortening the loan repayment period.

At the same time, it seems to us that gearing the loan repayment schedules to the recouplement of the loan-funded capital outlays alone may result in narrowing the sphere of long-term agricultural credit. In this case the borrowers specializing in the most profitable types of production would make more active use of loans.

Economic literature has expressed the opinion that it is expedient to link the repayment schedules for long-term farm loans to the level of the general profitability of the farms. For example, it has been proposed that loan repayment schedules be linked to the increment in the net income of a farm.\* The proponents of this concept assume that determining the loan repayment period as a function of the general level of accumulation is due to the inevitability of the intra-farm redistribution of the income derived from the facilities built with loan funds.

We believe that linkage to increment in profits (net income) will deepen the differentiation of borrowers according to the level of their financial possibilities and result in concentrating long-term indebtedness on farms operating at relatively little profit. Then the possibilities for strengthening the bank's stimulating influence on expediting the utilization of newly built facilities will not be the same in all cases, even when such farms develop fixed assets of equal value.

It appears that credit attains its maximum value as a stimulus when the facility built with borrowed funds reaches its designed capacity and becomes maximally productive as soon as possible. This accounts for the linkage of the loan repayment period to the end-result of the loan-funded capital outlays. Hence, we believe that the deadlines for the repayment of long-term loans should be figured out according to the anticipated income from and depreciation period of the newly activated loan-funded facility with allowance for the time taken to put it into operation, as illustrated in the table below.

---

\*Cf. Z. G. Shirinskaya, "Kredit i intensifikatsiya sovkhoznogo proizvodstva" [Credit and the Intensification of Sovkhoz Production], Moscow, "Finansy," 1980, p 125. A similar opinion was expressed earlier by L. I. Kolychev on investigating the role of long-term credit in promoting kolkhoz production.

Table. Computing the Repayment Schedules for Long-Term Credit Granted by the USSR Bank for Building New Enterprises (nominal examples)

(in '000 rubles)

Indicator	Loan-Funded Facility	
	Hog Complex	Poultry Factory
1. Total credit	19,657	29,154
2. Interest paid (0.75% over period of use of borrowed funds)	290	477
3. Planned annual income from loan-funded facility /1/	7,147	6,736.2
Deductions from that income to:		
- economic stimulation fund	4,825	4,547
- payment of interest on short-term loans	142	134
4. May be used to repay long-term loan (after a year of using the facility)	2,180	2,055.2
5. Plan of deductions to sinking fund for complete renewal of fixed assets (yearly total)	738.4	1,087.7
Of which: deduction to the fund for strengthening and expanding the farm (30%)	221.5	326.3
6. May be used to repay long-term loan	516.9	761.5
7. Time of construction and activation /2/	3.1	3.5
8. Period of loan repayment following activation	6.5	8.9
9. Overall loan period	9.6	12.4

/1/ These deductions are not made until loan is completely repaid. It is conditionally assumed that, under the existing procedure, 52.5 percent of income is allocated to the economic-stimulation fund and special-purpose funds.

/2/ According to the branch method for determining the effectiveness of capital investments, the period of attaining the designed productive capacity is taken at one year.

Calculations show that the loan repayment schedules differ but in both cases the overall loan periods are below the standard 20-year limit. Linking the loan repayment schedules to the schedules for the activation and profitability of loan-funded new facilities, with allowance for the time taken to reach full designed capacity, would, in our opinion, serve to strengthen the bank's economic influence and improve its monitoring of every stage of the movement of the borrowed funds. In this connection, while the dependence of the loan repayment period on the period expected to reach the income-producing stage acts as a stimulus for achieving designed capacity, the use of the sinking fund to amortize the indebtedness should promote the on-schedule repayment of loans.

In cases in which the loan repayment schedule exceeds the prescribed time limit, in our opinion it is expedient to use budget funds in order to amortize

the long-term loan. Such funds, when provided as the need arises, should be made available in measure with the attainment of the designed indicators of the volume of production.

We believe that the above loan repayment procedure is suitable for long-term capital investment loans to agricultural enterprises, granted with the object of expanding existing and building new animal husbandry farms which cannot operate at a high profit level owing to the applicable procurement prices.

Such a method for determining the sources and schedules for repayment of long-term loans would, in our opinion, contribute to increasing the material responsibility of borrowers for the on-schedule utilization of the activated productive capacities and repayment of loans. Given the ongoing intensification of production, with the attendant increasing importance being attached to saving time, improvements in the current procedure for the repayment of long-term credit should serve the interests of the further acceleration of the growth rates of expanded reproduction in agriculture.

COPYRIGHT: "Den'gi i kredit", 1983.

1386

CSO:1824/67

PROCUREMENT OFFICIALS RESPOND TO CRITICISM OF SUBSIDIARY INDUSTRIAL ENTERPRISES

Moscow ZAKUPKI SEL'SKOKHOZYAYSTVENNYKH PRODUKTOV in Russian No 10, Oct 83 p 39

[Article: "The Network of Subsidiary Farms Is Growing." See related article from ZAKUPKI SEL'SKOKHOZYAYSTVENNYKH PRODUKTOV No 3, Mar 83 p 1-4 in JPRS 83445, No. 1381, 11 May 83 p 58.]

Text/ It is difficult to exaggerate the social-economic value of subsidiary farms of enterprises, organizations and institutes at the present time. They furnish substantial assistance in the production of food products. The importance attached to developing these farms was mentioned in the country's Food Program, approved during the May (1982) Plenum of the CPSU Central Committee.

The leading article of Issue No. 3 of this journal for 1983, entitled "A Subsidiary Agricultural Department for Each Enterprise" was devoted to this problem. The article contained critical comments aimed at certain union republic ministries of procurements. In particular, it was stated that the network of subsidiary agricultural farms at enterprises and organizations of the ministries of procurements for the Belorussian, Latvian, Tajik, Turkmen and other republics is developing extremely slowly. The Editorial Board has received many responses to the leading article, with the respondents expressing a readiness to fulfill the task established by the party and government with regard to improving the food supply for manual and office workers.

Thus the 1st deputy minister of procurements for the Belorussian SSR A.G. Shmantsar' has reported that work has been carried out in the republic in connection with the creation of subsidiary farms. At the present time, such farms have been created at nine of the system's enterprises.

In April of this year, during a board meeting of the ministry, a review was undertaken of the work being carried out by the Minsk and Grodno Oblast grain products production administrations in the development of subsidiary farms for enterprises. As a result, the party, soviet and economic organs in the various areas commenced devoting greater attention to this work. At the present time, a solution is being found for the problem of creating 13 more farms at enterprises, with the plans calling for the fattening of hogs and cattle and the raising of sheep at these farms.

We have been informed by A.G. Shmantsar' that by the end of the five-year plan a subsidiary farm will have been created at each industrial enterprise.



Soon after the publication of the decree of the CPSU Central Committee and the Council of Ministers entitled "Subsidiary Farms of Enterprises, Organizations and Institutes," we were informed in writing by the deputy minister of procurements for Latvia Z.Yu. Stars regarding the creation of the subsidiary farm at the Riga Sarkanays Oktobris Grain Products Combine in 1979 and in 1980 -- another subsidiary farm was formed at the Rezekne Grain Products Combine; they specialize in the production of meat, milk and vegetables.

Farms within the Ministry of Procurements system are maintaining approximately 1,000 pigs for fattening purposes, 220 head of young cattle stock, 30 cows, 26 sheep and 400 young turkeys. They have at their disposal a sowing area of 105.6 hectares and 2,900 square meters of hotbed and hothouse space. Last year they produced 208 tons of meat in dressed weight and 52.9 tons of milk. Sixty kilograms of meat and 6.6 kilograms of oil were sold per worker.

By the end of 1981, two more farms had been organized within the republic's procurement system -- at the Dobeles and Yelgava grain products combines and this year -- at the Liepaya Grain Products Combine.

The plans call for the farms to produce and sell approximately 400 tons of meat, 40 tons of vegetables and 100 tons of potatoes by the end of the 11th Five-Year Plan.

The deputy minister of procurements for the Turkmen SSR P.I. Shmalev has reported that five subsidiary farms with 515 hectares of land at their disposal have been organized within the procurements system for the Turkmen SSR. Fruit trees, grape vines, vegetables and melon crops have been planted on 88 hectares of land at the farm of the Tedzhen Grain Receiving Enterprise. The Mary Grain Products Combine has been allocated 200 hectares of land. A farm for small cattle has been created at the Chardzhou Grain Products Combine. Four hundred head of such cattle will be maintained at this farm. Tracts of land at the Tashauz and Ashkhabad grain products combines are gradually being developed.

For the purpose of future development, computations on the work of the subsidiary farms have been projected forward for the period up to 1990. However the republic is experiencing definite difficulties in developing the lands and quite often the land of some farms is not being utilized owing to the absence of an irrigation network.

The Council of Ministers for the Turkmen SSR is furnishing assistance to the farms in allocations of concentrated feed, formulating financial loans and in acquiring seed, equipment and agricultural implements. Each year the problems concerned with the development of subsidiary farms are examined during meetings of the board of the republic's ministry.

The Editorial Board has been informed by the deputy minister of procurements for the Tajik SSR V.P. Kopytko that use is being made of the potential available for increasing the production of agricultural products at subsidiary farms within the ministry's system. Three farms have been in operation since 1981 -- at the Nauskiy Grain Products Combine and at the Kulyab and Pendzhikent grain receiving enterprises.

In 1982, subsidiary farms at the Dushanbe and Kurgan-Tyube grain products combines were already capable of selling their products to manual and office workers.

A subsidiary farm has also been organized at the Kayrakkum Grain Products Combine imeni M.I. Kalinin. Thirty young bulls have been procured here for maturing purposes and the plans call for 30 quintals of meat to be sold to the workers. An apiary is being organized at the Ordzhonikidze Grain Products Combine.

The Ministry of Procurements is undertaking all measures aimed at further developing subsidiary farms at its subordinate enterprises.

The need for achieving the maximum possible degree of self-support in supplying manual and office workers with food products was discussed during the June (1983) Plenum of the CPSU Central Committee. And those who strive to carry out the established tasks will not be making a mistake; everyone will profit -- the manual and office workers and the state.

COPYRIGHT: "Zakupki sel'skokhozyaystvennykh produktov," 1983

7026

CSO: 1824/85

## INCREASING EFFICIENCY OF MOLDAVIAN VEGETABLE PRODUCTION

Kishinev SOVETSKAYA MOLDAVIYA in Russian 11 Oct 83 p 2

[Article by B. Kalashnikov, candidate of economic sciences and senior scientific worker at the Scientific Research Institute of Economics and Organization of Agricultural Production of the Moldavian SSR Ministry of Agriculture: "Vegetable Production: the Return From Capital"]

[Text] Vegetable production has undergone rapid development in our republic in recent years. The gross annual harvest reached 1,186,000 tons during the past five-year period, with a yield of 162 quintals per hectare. While occupying only 7 percent of the total agricultural area, vegetable crops account for 9.2 percent of the total value of the entire gross output from crop cultivation. The kolkhozes are the main producers of commercial vegetables, accounting for around 60 percent of the total republic yield. The marketability level for the branch has also risen, reaching as high as 80 percent.

The task of considerably increasing deliveries of fresh vegetables to the nation's industrial centers, set at the May 1982 Plenum of the CPSU Central Committee, is being persistently accomplished in the current five-year period. In order for this branch to make a large contribution to the implementation of the Food Program, it is important to make the most efficient possible use of existing internal reserves as demanded by decisions coming out of the November 1982 Plenum of the CPSU Central Committee. And there are considerable such reserves.

The main factors defining the development of commercial vegetable growing in the republic are the irrigated areas, floodlands and other high'y productive land in the valleys of the Dnestr, Prut and Reut rivers, as well as climatic conditions which make it possible to achieve large and stable harvests of such heat-loving crops as tomatoes, peppers and eggplants.

This branch is being developed especially intensively on farms of the southeastern zone, where almost 60 percent of the republic's gross vegetable harvest is presently produced. It accounts for 48 percent of the proceeds from sales of farm crops and produces a yield of 180 quintals.

The outstanding crop growers achieve even better yields. Last year the "Leont'vevo" sovkhos in Suvorovskiy Rayon averaged 613 quintals of vegetables per hectare, and the Order of the Labor Red Banner Kolkhoz imeni Michurin in Slobodzevskiy Rayon produced 530 quintals.

A good vegetable yield has also been achieved this year on the outstanding farms of Slobodzeyskiy, Suvorovskiy, Grigoriopol'skiy and other rayons of the republic.

The strengthening of the materials and equipment base and the industrialization of production are the most important conditions for the continued growth of effectiveness in vegetable production, as they are for other branches of agriculture. The shortage of workers which has developed as a result of the migration of a part of the able-bodied population out of the rural areas can be made up by enhancing the level of production mechanization.

Our institute recently made a study of the effectiveness of vegetable production and the use of fixed capital on 25 kolkhozes in the southeastern zone. The farms there average 3,804 hectares of farmland. This includes 3,212 hectares of tilled land, 375 hectares of which are used for raising vegetables. All of the farms are multibranch operations. Vegetables account for 34.5 percent of the commercial output of agriculture, fruits--17.3, tobacco--13, grain--5.9, grapes--5.3, and animal husbandry products--18.9 percent.

The cultivation of vegetables requires considerably greater capital investments to provide production with more capital than do many other farm crops. As they implement the CPSU's agrarian policy, the kolkhozes therefore use large amounts of capital each year to acquire farm and transport equipment, to erect production buildings, intrafarm irrigation systems, protected-soil facilities for raising seedlings, and vegetable storage facilities.

More tractors, special precision-sowing planters, seedling planting machines, cultivators-and-plant feeders, self-propelled tomato harvesters, tomato hauling trailers, sprinklers, various combination loaders and haulers, machinery for applying fertilizers and toxic chemicals, and other equipment are now in use.

All of this has made it possible to increase output. The average value of the vegetables sold from one hectare of land on those farms has increased by 12.3 percent over the past 7 years, reaching almost 4,300 rubles.

This is not an adequate growth, however. It clearly lags behind rates of increase for the branch's capital. A marked drop in the output-capital ratio indicates that existing reserves are still not being fully utilized on the farms.

In the first place, each farm must be provided with the most efficient level of production capital. This is especially important in a situation in which the vegetables are raised with an industrial technology.

In accordance with scientifically based norms for basic agricultural production capital in Moldavia, there should be 2,153 rubles worth of basic capital for each hectare of irrigated land used for growing vegetables with a yield of 200 quintals. This includes 1,010 worth of reclamation works, 271 rubles worth of operating machinery and equipment, 90 rubles worth of transport equipment, 31 rubles worth of minor production and management equipment and 32 rubles worth of tools.

Studies have shown that the capital for raising vegetable crops is considerably below the optimal level on most kolkhozes. The average capital equipment level

per hectare of vegetable land is 510 rubles on 17 of the 25 farms, for example. It is 3,452 rubles on the other eight farms. This is an excess of basic capital, and it is not efficiently utilized. Only individual kolkhozes have the optimal capital equipment level. They include the "XX parts"yezd" kolkhoz in Suvorovskiy Rayon.

Nor are the farms making full use of other reserves for enhancing the effectiveness of the basic means of labor. The most important thing is the fact that production specialization has not been completed in all cases. It has been demonstrated that the branch's basic production capital is better utilized and its economic effectiveness is enhanced by increasing the portion accounted for by vegetables in the commercial crop production operation. On those farms on which vegetables account for more than 60 percent of the commercial output from the crop production operation, their yield is 152 quintals per hectare greater, the basic cost of producing one quintal is 4 rubles and 62 kopecks lower and the selling price is 6 rubles and 69 kopecks greater than on kolkhozes on which vegetable production accounts for a 2-fold smaller portion.

Success in enhancing vegetable production effectiveness depends in great part upon the degree of concentration of the crop areas. This has been accomplished by many kolkhozes, but a number of farms are still delaying this work. And this is despite the fact that they enhance the effectiveness of their basic production capital by increasing the area planted to vegetables. An additional 1,500 rubles worth of vegetables per hectare is sold on those kolkhozes on which vegetables occupy more than 18 percent of the total tilled area, compared with farms on which this figure is 2-fold less. Furthermore, the basic production cost for a quintal is almost 2.5 rubles less. This means that the income level for vegetable production also increases. Profit is increased by 734 rubles per hectare of cropland and by 73 kopecks for one man-hour of direct labor expenditures.

And so, a stable growth of gross vegetable yields is achieved, their basic production cost is reduced and the branch's effectiveness is enhanced by strengthening the materials and equipment base of vegetable kolkhozes, creating an efficient capital equipment level for the vegetable production operation and adopting industrial technology.

11499

CSO: 1824/97



## ILLING AND CROPPING TECHNOLOGY

### IMPORTANCE OF SCIENTIFIC SUPPORT IN RAISING LEVEL OF CROPPING SKILL STRESSED

Saratov *STPPNYE PROSTORY* in Russian No 9, Sep 83 pp 2-3

[Article by P. A. Kolomiyets, RSFSR deputy agricultural minister: "A More Rapid Pace of Scientific-Technical Progress"]

[Text] A characteristic feature of agricultural development at the contemporary stage is the rapid growth of the level of mechanization and electrification. In the years following the March 1965 Plenum of the CPSU Central Committee energy supplies for labor in kolkhozes and sovkhozes nearly tripled and reached 34 horsepower per worker. Energy supplies per 100 hectares of plowland now comprise 237 horsepower as compared to 85 in 1965.

The increasing amount of technical equipment facilitated the transition toward the comprehensive mechanization of basic production processes for rice, sugar beets, potatoes, flax, sunflowers, corn and feed as well as labor-intensive operations on farms. At the present time machines are used for plowing, sowing, interrow cultivation, top-dressing of crops, combatting agricultural pests and harvesting a number of crops. The introduction of machine harvesting of vegetables and fruit has begun. The mechanized procurement of hay and straw and loading of mineral and organic fertilizers is being completed.

Becoming more and more widespread is the industrial technology for cultivating and harvesting potatoes, sugar beets, sunflowers, soybeans, corn for grain and others.

The material-technical base for livestock raising has been strengthened significantly. During the 10th Five-Year Plan alone the republic's kolkhozes and sovkhozes received machines and equipment for livestock raising and feed production worth over 5 billion rubles, or almost the same amount as during the preceding three five-year plans taken together. This in turn enabled farmers to complete the mechanization of cow milking and water supplies to farms, to place on the shoulders of machines two-thirds of the work involved in feed preparation and manure removal and to significantly decrease manual labor in feed distribution. Today the republic's enterprises have at their disposal highly mechanized farms, which when used to capacity can house 59 percent of cows, 70 percent of hogs, 75 percent of poultry and almost half the cattle available.

The growth of technical and energy supplies enabled farms to achieve all production growth within the branch during the past five-year plan without recruiting an additional work force. The load of cows per milkmaid increased by 42 percent; the load per operator in poultry farming--by a factor of 1.7.

A central position in the decisions of the May and November (1982) plenums of the CPSU Central Committee was given to measures related to the realization of the Foodstuffs Program. This year the volume of production and sales to the state of agricultural products must increase by 17 percent as compared to 1982.

The main way to deal with this task involves a comprehensive approach to intensifying farming on the basis of farming systems and industrial technologies elaborated in oblasts, krays and autonomous republics.

We have amassed considerable experience in producing large and stable harvests of corn, sugar beets, sunflowers, flax, potatoes and vegetables. Unfortunately, this is just experience and not a mass phenomena. In cultivating agricultural crops according to industrial technology there should be guaranteed production of the following: corn for grain--no fewer than 50-60 quintals per hectare; sugar beets--400-500 quintals per hectare; potatoes--250-300 quintals; and vegetables--400-500 quintals. Only if this is true will production expenditures be reimbursed fully.

The main reason for low crop productivity with industrial technology is the lack of adherence to the requirements of the technology. Also having an effect is the shortage of herbicides and many machines, but the main thing is the absence of a systematic approach to finding a solution to the problem.

In this plan there are great tasks for the engineering service. At the present time seven central demonstration sovkhozes have been selected in various zones of the republic, including the Sovkhoz imeni 50-Letiya SSSR in Volgograd Oblast and the Order of Lenin Komsomolets Sovkhoz in Kuybyshev Oblast of the Transvolga region.

All of them reflect the natural-climatic conditions of particular regions in the republic. It is essential that we make them centers for introducing complex mechanization where it will be possible to work out the optimal structure of the machine-tractor fleet for the local conditions, to organize its use, to determine the need for corresponding machinery and to determine the need for fuel and lubricants and cadres of machine operators. They will be places to determine the most effective mechanized technology for cultivating and harvesting agricultural crops. Seminars will be conducted regularly to disseminate achieved positive experience.

The central directorate of mechanization of the ministry, production central directorates and local agricultural organs must take the necessary measures to make sure that these enterprises perform their role. In other words, they must be supplied with technology and with the planned system of machines. Their proper utilization must be organized and on this basis a determination should be made of the actual needs of enterprises in the zone based on

optimal load. It should be remembered that these enterprises will also be production testing grounds for agricultural machinery. Using the data we receive from base enterprises we will be able to provide a proper evaluation of recommended systems or individual machines, to halt the extensive distribution of imperfect designs and to encourage the introduction of new machinery that meets production needs.

I would like to discuss technical creativity in the branches of agricultural production. It is the technical creativity of the masses that helps us to successfully deal with the problems of increasing field productivity, of livestock productivity and of the complex mechanization of labor-intensive operations. Whereas at the end of the Ninth Five-Year Plan in our ministry there were only 50,000 innovators producing changes valued at 90 million rubles per year, at the beginning of this year their number increased by a factor of 1.6 and the savings from introducing inventions and efficiency proposals reached 356 million rubles. In other words, each ruble spent on inventions and efficiency yielded a savings of about 30 rubles. This is why we need active work to recruit new detachments of workers, kolkhoz farmers, engineers and technologists for creative activity.

Mass technical creativity is one of the means of implementing the decisions of the 26th CPSU Congress. By stimulating innovative searches, developing inventive and efficiency activities and organizing the extensive introduction of technical innovations we can have a greater and greater effect on raising production effectiveness and on accelerating scientific-technical progress.

Worthy of attention is the experience of Bashkiriya, Altay and Krasnodar krais, Leningrad, Omsk and a whole series of other krais and oblasts, where free specialists have been determined to implement extensive mass organizational work to utilize inventions and proposals. The directors and specialists of enterprises are being educated in the fundamentals of laws regarding inventions. There are regular competitions for the best proposal concerning the mechanization of labor-intensive agricultural production processes and concerning the preservation of technology and economizing on fuel and lubricants. Weeks of the efficiency expert are instituted, during which time displays of the best work are organized. The individual creative plans of specialists include themes of problem production areas, which are formulated as efficiency proposals in their elaboration. In 2 years of the current five-year plan alone the kolkhozes and sovkhoses of Rostov Oblast utilized about 17,000 efficiency proposals and 800 inventions, achieving a savings of 110 million rubles. There is one efficiency expert per 28 workers in the oblast. The enterprises of Krasnodar Kray achieved a savings of 69 million rubles in 1982 as a result of introducing innovations; of the Bashkir ASSR--23 million rubles.

The directors of leading enterprises understand well the role of the innovator in accelerating scientific-technical progress in the village and create the necessary conditions for his fruitful creative labor. For example, in the Permskiy Sovkhoz of Perm Oblast a house of technical creativity has been built and equipped. In the Krasnaya Zvezda Kolkhoz of Dinskiy Rayon, Krasnodar Kray and in the Komsomol'skoye OPKh [Experimental

enterprise] of Altay Kray there are special shops and experimental plots for manufacturing new machinery and attachments proposed by efficiency experts.

At the same time, in many kolkhozes and sovkhozes of the Kalmyk ASSR and Astrakhan and Ulyanovsk oblasts this work has been allowed to drift. Primary accountability has not been instituted, the role of public organizations has been downplayed, local VOIR [All-Union Society of Inventors and Efficiency Experts] organizations are not being created, efficiency proposals are not made, the savings from their utilization are not calculated and the developers of proposals are not awarded. Monetary resources earmarked for these purposes are spent at a rate of less than 50 percent. In rare cases questions of efficiency work are examined by boards of local agricultural organs.

As previously, the problem of combatting losses remains acute. One-fifth of annual production is lost. It is our task to achieve a sharp drop in the losses of grain, vegetables, and fruits during harvesting, transportation, storage and processing.

Special attention should be given by innovators to the status of livestock raising, especially to feed production and the mechanization of labor for the care of animals. Let's look at least at feed. There is a shortage of technology, there are no modern machines, technology has not been elaborated, and so forth. At the same time a great deal can be done in enterprises by utilizing mass-produced and written-off machinery. Further, the level of complex mechanization on farms is constantly increasing, whereas labor expenditures in dairy farming, for example, remain unchanged. Evidently there is something to think about here as well.

As a result of the imperfect technology for planting and cultivating potatoes the level of combine harvesting is extremely low--39 percent, although the availability of the combine fleet would enable us to harvest all potatoes using only machines.

With the growth in the supply and use of mineral and organic fertilizers there has been an acute need felt for loading-unloading equipment and application equipment, which are in short supply. Inventors and efficiency experts must deal seriously with the problem of how to most effectively utilize each kilogram of mineral fertilizer and each ton of manure and compost.

The future of agriculture is indissolubly tied to its supply of technology. Energy supplies for labor in kolkhozes and sovkhozes will increase by a factor of 1.5 during the years of the 11th Five-Year Plan. There will be an increase in the delivery of new technology and its quality will improve. For these reasons village innovators must keep at the center of their attention problems such as the operation of the machine-tractor fleet, economizing on fuel, elaborating new and perfected methods of repair and technical servicing, finding better ways to store tractors and agricultural machinery and a number of other problems related to these.

There is a noticeable lag in the development of new and effective methods of combatting plant diseases and pests as well as salination and flooding of lands.

The extensive development of nuclear physics and the atomic industry has opened up great possibilities for utilizing their achievements in agriculture, especially in breeding. Priority items include problems such as the use of the laser, radiation treatment of processed grain, space research and the use of energy from the sun, wind and earth's heat.

Elaborations are needed concerning creating healthy and safe working conditions for village workers.

In some cases village innovators experience great difficulties in testing their proposals practically. Sections should be organized immediately for preparing experimental models as well as those that have justified themselves in practice. For example, the efficiency shops in the Krasnaya Svezda and Leninskiy Put' kolkhozes of Dinskiy Rayon, Krasnodar Kray, enable the workers of various professions to work on developing attachments and entire machines according to the proposals of village innovators. This provides the opportunity to make and introduce into production everything that is born in the enterprise or borrowed from others in a short period of time.

In conclusion I would like to express my belief that village efficiency experts and innovators will make their worthy contribution toward implementing the country's Foodstuffs Program.

COPYRIGHT: "Stepnyye prostory", No 9, 1983.

8228

CSO: 1824/095

END



**END OF**

**FICHE**

**DATE FILMED**

17 Jan 1983